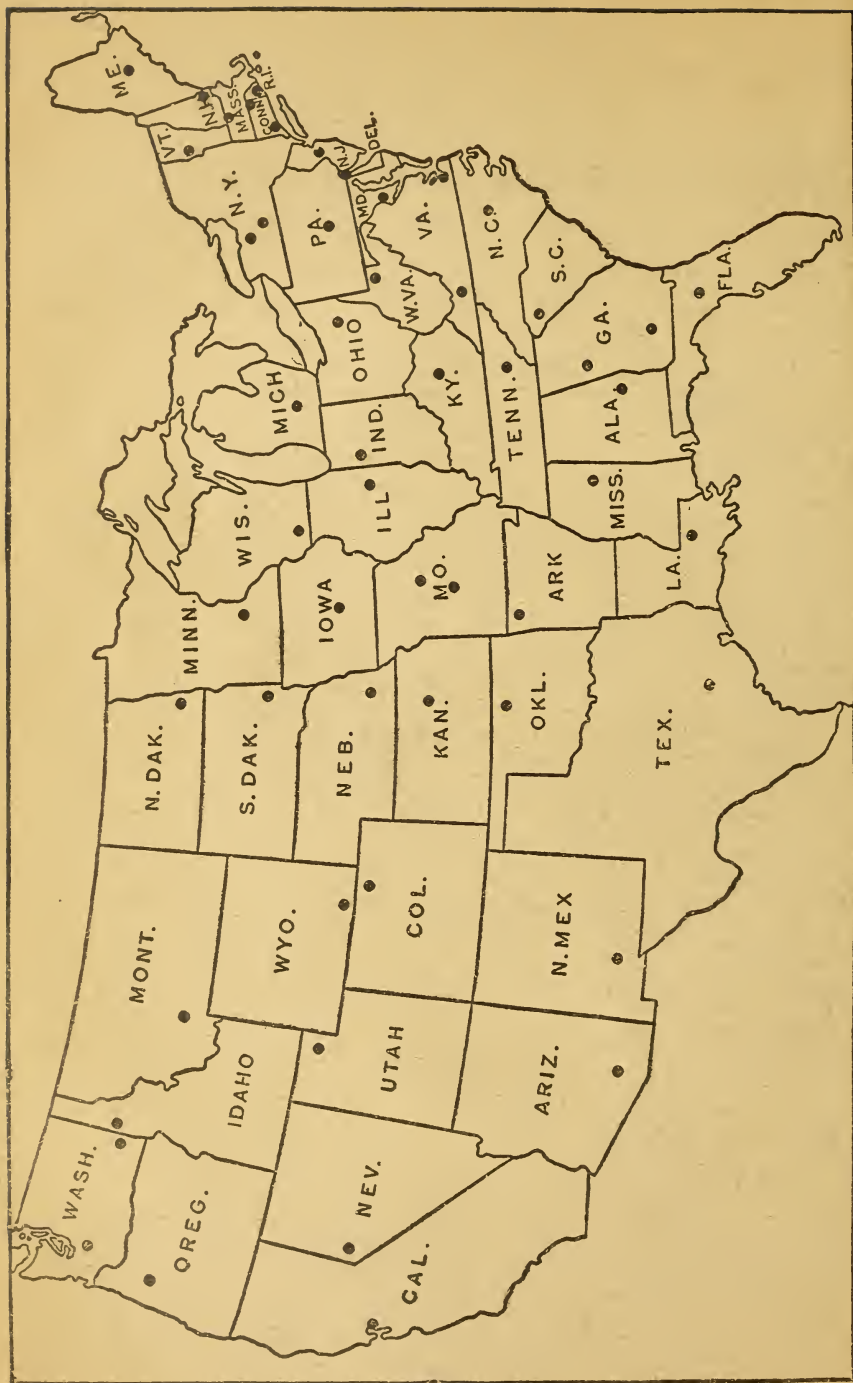
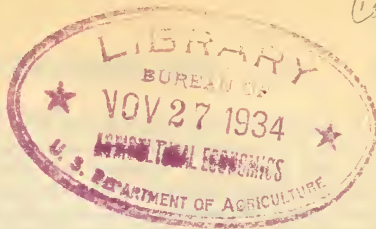


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THE AGRICULTURAL OUTLOOK FOR 1935

Prepared by the Staff of the Bureau of Agricultural Economics

Assisted by Representatives of the Agricultural Adjustment Administration, the Extension Service,
and the State agricultural colleges and extension services

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THE SCOPE OF THIS REPORT

This report presents a summary of facts bearing upon the present situation and probable developments with respect to agricultural production and marketing in 1935. The best available information has been assembled and carefully studied before preparing statements designed to help farmers in making decisions for the next year's operations. These statements were prepared by the staff of Bureau of Agricultural Economics and have been considered in detail and revised in conference with agricultural economists from the agricultural colleges, experiment stations, and extension services of the States, as well as others representing other bureaus of the Department of Agriculture, the Agricultural Adjustment Administration, and the Farm Credit Administration. The conclusion, therefore, presents a composite result of the best judgment of the representatives of these several agencies.

In the preparation of these reports the workers had available information contained in the several reports on the drought, prepared by the Bureau, the facts regarding the results of the various adjustment and marketing agreement programs, as well as a large amount of special data assembled for use in planning these activities. The facts concerning foreign competition and demand were also more comprehensive than have been available at any time in the past, as a result of the numerous special studies which are being made on general subjects relating to foreign-trade agreements.

A section of the report, on the outlook for farm-family living, has been prepared in cooperation with representatives of the Bureau of Home Economics and the Extension Service for the last 3 years. Home economic workers from the States attended the Outlook Conference for the first time this year, there being 33 representatives present from 26 States. The Bureau of Home Economics and the Extension Service conducted a conference on farm-family living considering such phases as the income and purchasing power of farm families, adjustment of food supplies, and the home-production program.

This report presents, therefore, a summary of the outlook based upon more complete information than has heretofore been available for use in appraising the probable trends of agriculture.

This report for 1935 will be the only report issued by this Bureau until the summer of 1935, when the usual summer outlook reports will appear, if there is no change in the outlook program. This report represents the national viewpoint primarily. Most of the State agricultural colleges and extension services will prepare reports, applying particularly to conditions in their respective States, for the use of their extension workers. Any farmer who receives a copy of this, the Federal report, is urged to secure a copy of any reports that may be distributed by his State extension service for consideration in connection with his individual problems.

DOMESTIC AND FOREIGN DEMAND

The outlook for domestic demand for farm products in the first half of 1935, as indicated by the prospects for industrial production and consumers' income, is for a level slightly higher than the present level but probably not greatly different from that of the first half of 1934. The possibility of further improvement in the last half of 1935 depends primarily upon further recovery in the durable-goods industries, where the decline in employment and production during the depression was most pronounced. Any further expansion of construction either through the medium of federally sponsored projects not now a part of the program or through private construction would tend to raise the level of industrial activity somewhat higher than seems probable at the present time.

The foreign demand for American farm products is expected to be less favorable in 1935 than in 1934. A marked reduction in the exports to Germany is expected to result from the severe restrictions on German imports arising from Germany's adverse foreign-trade balance. Prospects are also less favorable in France, where deflation is still proceeding, and in China, which has been adversely affected by fluctuations in foreign-exchange rates. These unfavorable factors appear to outweigh moderate improvement in industrial activity in the United Kingdom, Canada, and Japan. Trade barriers continue to restrict agricultural exports. Bilateral trade agreements are increasing, whereby foreign countries seek to balance their trade individually with other countries. This tendency is unfavorable to the United States, which has an excess of commodity exports to important agricultural-deficit countries. The tariff-bargaining program of the United States, which adheres to the most-favored-nation treatment and is not strictly bilateral, is proceeding rapidly, but trade agreements with the countries which represent our principal markets for agricultural exports may not be concluded in time to be effective during the remainder of the 1934-35 marketing season.

With the greatly reduced supplies of most agricultural products and with some improvement in domestic consumers' purchasing power in prospect, it appears that the level of farm prices will tend to rise during the first half of 1935, despite the prospective decline in the foreign demand for American agricultural products. Since agricultural production in 1935 is likely to be larger than the unusually small production of 1934, it may be anticipated that the average level of farm-commodity prices will tend to readjust itself to the increased supplies in the later months of 1935, but the larger marketings will probably maintain the level of farm income. The relation of farm prices to nonagricultural prices may show some further improvement during the first half of 1935. The extent to which this occurs will be influenced by the extent to which price-fixing policies in many of the industrial codes are modified.

DOMESTIC DEMAND

CONSUMER INCOMES

Incomes of industrial workers as well as of farmers have shown marked improvement since the low level reached in the spring of 1933. During the first 3 months of 1933 an index of the income of workers engaged in factories and mines, and on railroads, averaged only 39 percent of the period 1924-29. The marked improvement in industrial activity during the summer of 1933 was accompanied by an increase in these pay rolls to 55 percent of the 1924-29 average in September. After declining to 51 percent in December, pay rolls again increased to 63 percent in May and have since declined to only slightly above the high point of last year. This improvement in the income of industrial workers may be attributed partly to the improvement in industrial output and partly to the increase in the average weekly wage rates. Any increase in industrial production from present levels should be accompanied by a further increase in the incomes of industrial workers.

The increased incomes of industrial workers have been supplemented by increased incomes of other consumers. Farm income during 1934, including rental and benefit payments, is expected to average 19 percent higher than in 1933. The refinancing program of the Farm Credit Administration and the Home Owners' Loan Corporation has resulted in the consolidation of a large volume of indebtedness into long-term obligations requiring, on the average, smaller annual payments for interest and the curtailment of principal, thus allowing a larger proportion of the borrower's income to be spent for current purchases. At the same time, private creditors, whose loans have been refinanced under these programs, have been placed in an improved financial condition, with increased purchasing power.

Furthermore, continued employment for a large group of consumers who were unemployed in the first half of 1933 and prior thereto, has resulted in the gradual repayment of accumulated debt obligations, which will make an increasing proportion of consumers' incomes available for current purchases.

The incomes of consumers also are being supplemented by the emergency expenditures of the Federal Government, which in 1934 will apparently total about \$3,700,000,000. Of this, approximately \$1,750,000,000 was spent in the first half of the year, and \$1,950,000,000 will be spent in the second half. These expenditures include disbursements of the Civil Works Administration, Federal Emergency Relief Administration, Federal Surplus Relief Corporation, and expenditures for public works and emergency conservation. It now appears probable that emergency expenditures will continue large throughout 1935 and will be an important factor in sustaining the demand for farm products, although the importance of this factor may decline in the latter part of the year unless the emergency programs are extended.

The increase in consumer incomes is being offset, to some extent, by higher prices of things consumers buy. In September 1934 prices paid by farmers were 26 percent higher than in March 1933 and 9 percent higher than in September 1933. The cost of living for industrial workers has also increased during the past year, particularly prices of foods. In September 1934 food prices were 9 percent, housing 4 percent, clothing prices 3 percent, and fuel prices 2 percent higher than in September 1933.

INDUSTRIAL PRODUCTION

Industrial production in the United States has been on an uptrend since March 1933, but has been marked by pronounced advances and declines. The Federal Reserve Board's index of industrial production increased from 59 percent of the 1923-25 average in March 1933 to 99 percent in July and then declined to 72 in November. During the following 6 months the index of industrial production increased to 86 percent of the base period, but from May to September declined to 71 percent. These wide fluctuations in industrial production have been much more pronounced in the industries that produce durable goods, such as iron, steel, automobiles, and building materials, than in the non-durable-goods industries which are primarily engaged in producing commodities for immediate consumption.

The production of durable goods declined much more during the period 1929-33 than did the production of nondurable goods. The index of production of

urable goods (with 1923-25=100) declined from a peak of 134 in June 1929 to 25 in August 1932. Little improvement occurred until after March 1933. Since March 1933 improvement has been more marked in the production of durable goods than in the production of nondurable goods, but the level of production in this group of industries is still unusually low relative to the level of production in the non-durable-goods industries. During the first 9 months of 1934 the level of production in the durable-goods industries was 58 percent of 1923-25. The index of production of nondurable goods declined from 120 in June 1929 to 80 in June 1932, and with the exception of a marked rise and fall in the summer of 1933 has continued slightly below the level prevailing in 1923-25. During the first 9 months of 1934 the level of production in the non-durable-goods industries was 96 percent of the 1923-25 average.

NON-DURABLE-GOODS INDUSTRIES

Under normal conditions textile production accounts for about 40 percent of the manufacturing activity in the non-durable-goods industries, paper and printing 22 percent, food 20 percent, leather 8 percent, petroleum and rubber 4 percent each, and tobacco 2 percent. Nearly all of these industries use agricultural products as raw materials, and their prospective production depends partly on the production of agricultural products and partly on the incomes of consumers.

Activity in the cotton-textile industry was unusually low during the 4 months from June to September because of enforced restrictions and labor difficulties. During this period unfilled orders increased and manufacturers' stocks of unsold goods declined, so that cotton consumption is expected to be materially higher during the fall and winter months than during the summer months. Domestic cotton consumption during the first 2 months of the 1934-35 season was nearly 400,000 bales less than a year earlier. Although consumption during the remainder of the season is expected to compare more favorably with that of last season than in the first 2 months, it is doubtful if domestic consumption for the season as a whole will exceed, and may be somewhat less than, the 5,770,000 bales consumed last season. The great rush of activity in the wool-textile industry in the summer months of 1933 has been followed by one of the longest periods of decline experienced by the industry. The declining trend of activity during the past year has been accompanied by increased consumer buying power and has probably resulted in a considerable reduction of stocks of finished goods. It thus seems probable that the consumption of raw wool in 1935 will be considerably larger than in 1934.

Production of foods, which depends largely upon the marketings of farm products, has been temporarily stimulated by the large emergency sales of cattle in the drought area. This is likely to be followed, however, by unusually low marketings of cattle during the spring and summer of 1935, and this, together with the decrease of about 33 percent in hog production in 1934, will result in a marked decline in production in the meat-packing industry during the coming year.

Flour production by merchant mills has shown only a moderate improvement during the past year as the relatively high prices of wheat, an increase in custom millings, and the loss of the export market for flour have tended to curtail production. As these same factors will continue to affect production during the coming year, the outlook is for but little improvement in activity in this industry.

Production of leather goods continued at high levels until the spring of 1934, but production of boots and shoes declined somewhat during the summer months, and is now running about 10 percent below that of a year ago. Stocks of shoes have been increased to more nearly normal proportions and a sharp increase in production such as occurred in the summer of 1933 and the spring of 1934 does not seem probable during the next few months.

A review of the outlook for production in the more important industries producing nondurable products indicates but little increase in the level of production in this group of industries in the coming year over that of last year. Consequently if there is to be any marked improvement in industrial production in 1935 it is likely to come primarily from industries that produce the more durable goods. In this group of industries iron and steel and their products normally account for about 60 percent of the total production, and building materials 25 percent, and the remaining 15 percent of production is accounted for by the nonferrous metals, shipbuilding, and coke-manufacturing industries.

The outlook for steel production can best be appraised after examining the outlook for the principal users of steel and steel products. Although the automobile, building, and railroad industries, which have been the principal users of iron and steel, have accounted for a smaller proportion of the total consumption in recent years, these industries are still major consumers of steel.

DURABLE-GOODS INDUSTRY

Total registrations of motor vehicles at the end of 1933 were about 4,700,000 in excess of registrations of new cars during the 7 years 1927-33. Doubtless some of the new cars registered within the 7-year period had been scrapped, thus indicating that at the beginning of 1934 more than 4,700,000 cars were over 7 years of age. A similar comparison indicates that over 7,500,000 cars were at least 6 years of age and that over 11,000,000 cars were at least 5 years old at the beginning of 1934. Although automobile production has increased from slightly below 1,500,000 in 1932 to about 2,000,000 in 1933 and is expected to reach about 2,800,000 in 1934, production is still running under the necessary replacements to maintain the present registration of automobiles.

The average life of automobiles has increased from 7 years in 1923 to 7½ years in 1933. In view of the large number of old cars now in use it is probable that the number of cars scrapped will increase considerably in the next few years unless the average life of automobiles is to increase very rapidly. It is thus evident that, unless the total number of cars registered is to decline sharply, there is a large potential market for automobiles in the next few years but the extent to which this market will be filled depends largely upon the level of consumer purchasing power and the ability of consumers to finance new-car purchases. Foreign sales of American automobiles have increased at even a more rapid rate in the last 2 years than have domestic sales. Any further improvement in industrial activity in many of the countries that are the major users of American automobiles should result in still further increases in exports.

Improvement in building and construction since the spring of 1933, outside of public-works construction, has been much less marked than the improvement in industrial production. During the first 9 months of 1934, the monthly average of residential construction, as measured by the value of contracts awarded, averaged only 12 percent of the monthly average during the years 1923-25. In 1933, the monthly average was 11 percent of the period 1923-25. Owing to the large amount of building financed by the Public Works Administration, the value of all contracts awarded during the first 9 months of 1934 averaged 33 percent of the monthly average of 1923-25 compared with 25 percent in 1933. Practically all of the funds available for the Public Works program had been allotted by September 1934, but not all of the approved projects have yet been started. As many of the projects started under this program will require many months for completion, the stimulus to the construction industry will continue for some time, and it is expected that expenditures for construction under auspices of the Public Works program will be somewhat larger in 1935 than in 1934.

During the autumn some stimulus has been given to residential building by the Federal Housing Administration program for home modernization and repair. The effects of this program will probably have an important bearing on the amount of residential building work done throughout 1935. In addition to this improvement program, the Federal Housing Administration is preparing to insure mortgages on homes. As this program is still in the formative stage it is impossible to appraise the amount of new building it will stimulate. In view of the unusually low level of residential construction any additional activity is of especial importance because of long-continued unemployment in this field. The progress of this program will be influenced by a continuation of the present higher level of building costs and hesitancy on the part of prospective home owners to mortgage future incomes. Another factor is the relationship between building costs and rents; building costs have declined relatively less than rents during the depression and have since advanced, while rents have risen very little.

Privately financed nonresidential building has shown little improvement since the low levels reached during the spring of 1933. The supply of office space and industrial plants still remains somewhat in excess of requirements and little improvement in this type of building is in prospect until existing facilities are more fully utilized. The building of schools and other social

institutions has also continued at low levels owing to financing difficulties and to the low levels of consumer incomes.

The expenditures of railroads during the coming year for equipment and rails will depend to a large extent upon the amount of their net railway-operating income and upon loans from the Government. On the whole, it does not seem probable that railway traffic will increase more rapidly than industrial activity during the coming year. Agricultural traffic, which comprises about 14 percent of the tonnage and more of the ton mileage, will probably be reduced from now until the beginning of the new-crop season in 1935 in view of the prospective reductions in crop and livestock marketings. The net operating revenue of railroads has been declining since the summer of 1933 and unless traffic improves it is probable that the margin between revenue from traffic and the costs of moving traffic will be further narrowed during the coming year, as the higher cost of raw materials and the increases in wage rates of railroad employees are serving to increase railroad costs. Although the amount of money available from revenue to be used for capital expenditures may be lower in the coming year than in the past year, money from the Public Works Administration will continue to be available for railroad equipment and expenditures. Most of the \$198,000,000 allotted to railroads has been contracted for by them, but as of July 15 only \$96,000,000 had been paid out to them and presumably less had actually been spent.

The outlook for the automobile, building, and railroad industries does not indicate much of an increase in the consumption of steel by these industries in the coming year as compared with the past year unless there should be a large increase in building activity. Prospects of activity in some of the industries which are relatively less important but still consume large quantities of steel such as the shipbuilding industry, the electrical industry, and the agricultural-implement industry, point to some increase in steel consumption by those industries in 1935. There has been a considerable increase in naval construction and this is expected to continue through 1935. In the electrical industry, sales of household appliances have held up fairly well during the past year but sales in the heavier industries have been restricted by the low level of expenditures by railroads and the hesitancy of public utilities to make further outlays in the face of declining net revenues. An increase in crop production in 1935 would no doubt be accompanied by a further increase in agricultural-equipment sales. On the whole, however, it seems that the output of steel will show but a moderate improvement in 1935 over that of 1934.

In September 1934 the level of production in the durable-goods industries was about equal to the low point reached in November 1933. As automobile production for 1935 gains in volume and the spring upturn in building activity gets under way the level of activity in these industries will improve, but the improvement in the spring months of 1935 may not be so marked as in the spring months of 1934, when large stocks were being accumulated. However, the level of business activity in the summer and fall months of 1935 may be maintained at more nearly that of the spring months than in the same months of 1934.

FINANCIAL CONDITIONS

Low interest rates and the large surplus reserves of commercial banks continue as favorable factors for the further expansion of bank credit. In general, money rates have been declining and, for highly liquid loans such as acceptances, commercial loans, and United States obligations, funds are ample and rates are exceptionally low. For ordinary commercial borrowing, however, the continued hesitancy on the part of the borrowers and on the part of lenders to enter into new commitments has resulted in a relatively small increase notwithstanding some decline in rates charged customers, and the fact that member-bank reserves are now approximately \$1,900,000,000 in excess of legal requirements.

Since the acute stringency of the banking holiday, there has been a substantial expansion in member-bank credit. This increase has been largely accounted for by increased purchases of United States securities, return of currency from circulation, gold imports, and Treasury disbursements of cash funds. Net demand deposits of member banks since April 1933 have been increasing at the average rate of about \$275,000,000 per month, and during this period have increased from \$13,078,000,000 to \$17,490,000,000 in August 1934, or about 34 percent; but this increase in deposits has not been accompanied by a corresponding increase in loans and investments, as more than half of this increase represents

either the accumulation of excess reserves at the Federal Reserve banks or funds used to repay indebtedness at the Federal Reserve banks. With a smaller proportion of outstanding deposits represented by loans and advances there has been a reduced rate of turn-over of such deposits. Should the volume of loans and investments be substantially expanded or should the rate of turn-over of deposits increase, or both, the volume of domestic purchasing power would be substantially increased.

Prices of high-grade bonds have registered an unusually rapid recovery in the past year, increasing from 82.6 percent of par in November 1933 to 99.3 in July 1934, as measured by one well-known index. After declining from the latter part of July to the middle of September bond prices have again started an upward trend. In the first 9 months of 1934 the total volume of new security issues amounted to about \$1,033,000,000, as compared with \$518,000,000 in the same period in 1933. The total for the current year, however, included approximately \$250,000,000 of Government-guaranteed bonds. Most of the additional offerings represent increased issues of State and municipal bonds. Although the volume in the current year is approximately twice that of the abnormally low year of 1933, it is only about one-fifth of the average amount issued in the years 1925 to 1928. Until the security markets are in a position to absorb a substantial volume of new security issues, it does not seem probable that the issuance of non-Federal securities will afford much stimulus to the heavy industries, the recovery of which is so essential to bring about a sustained improvement in industrial activity, employment, and pay rolls.

FOREIGN DEMAND

Slightly improved demand in several foreign countries appears to be outweighed by adverse developments in others, particularly Germany, where the policy of self-sufficiency is restricting important agricultural imports. As measured by industrial activity, foreign demand appears to be less in those countries, such as France and China, where currencies have not been devalued recently, and slightly better than a year ago in those countries, such as the United Kingdom, Canada, and Japan, where currencies have been devalued in relation to gold. However, our participation in the present expansion of foreign demand in the latter countries may be hampered because of curtailed production in the United States, increased production abroad, and less favorable price relationships with foreign competitive supplies. Moreover, little progress was made in 1934 toward the reduction of trade barriers.

In Germany the recent improvement in industrial activity has been due in large measure to direct governmental stimulation of production and employment. Government expenditures for public works and subsidies for house repairs have stimulated activity in the production-goods industries, but the foreign-trade balance has been allowed to fall into serious disequilibrium. This has given rise to severe restrictions on imports of agricultural products.

In France business conditions have continued to decline and unemployment to increase. Unemployment figures are slightly larger than last year for Belgium and Poland, while in Italy, the Netherlands, and Czechoslovakia there is only slightly less unemployment. In China, which is an important market for cotton and tobacco, business conditions are definitely worse.

In the United Kingdom business activity has continued to expand and unemployment to decline. Industrial production, through the first part of 1934, reached the highest level since 1930 and exceeded that of 1928. Similar improvement is reported in the Scandinavian countries. In Japan, industrial activity has assumed the proportions of a business boom. Textile production in particular has shown marked expansion, and 95 percent of our exports to Japan in 1933 consisted of cotton.

PRICE TRENDS IN FOREIGN COUNTRIES

A combined index of wholesale prices in the moneys of eight foreign countries which take about 75 percent of our agricultural exports was practically unchanged during the year ended last August at about 69 percent of the 1926 average. Wholesale prices in France, Italy, Belgium, Switzerland, and Poland have declined further during the past year to the lowest levels of recent years. Prices in the Netherlands, Austria, Hungary, and Yugoslavia are but slightly higher than a year ago. Prices in Japan have declined a little during the past year, whereas prices in the British Empire generally, and in Egypt particularly,

have increased somewhat. Prices in Germany, Argentina, and the Scandinavian countries have increased substantially since a year ago.

Monetary exchange rates of the major commercial nations outside of the so-called "gold block" have declined only slightly in relation to gold during the past year in contrast to numerous marked declines in 1933. In the year ended August 1934 the decline in exchange rates in relation to gold parity amounted to about 5 percent or less in the United States, British Empire, Scandinavia, Japan, Brazil, and Argentina (official rate). In September, however, the English pound declined somewhat in relation to gold and the dollar. Chinese exchange declined from January to May 1934, but has since more than regained this loss with the rise in silver prices.

TRADE-BARRIER TENDENCIES

In the Agricultural Outlook Report for 1934 reference was made to certain tendencies in the field of international trade barriers which pointed to the maintenance of severe restrictions on the movement of goods in international trade. These tendencies included the continued growth of economic nationalism, the development of regional arrangements between groups of countries closely associated economically and politically, and a disposition on the part of some countries to increase their barriers to imports in anticipation of future tariff-bargaining programs. The lack of stability in foreign exchange was pointed to as a further obstacle to trade-barrier reductions.

These tendencies and obstacles continue to operate in the direction of the maintenance of high import duties and severe quantitative restrictions on imports in all parts of the world. There have been few developments in 1934 that point definitely toward trade-barrier reductions, whereas there have been many specific instances of increases in the handicap to trade. Prominent among the latter may be mentioned the development of the German policy of governmental control over imports. The exhaustion of foreign-exchange holdings and gold reserves has brought the German Government to a position at which it is forced to hold imports down to the level of its export possibilities. Germany's export possibilities appear to be slowly but steadily dwindling because of relatively high internal prices, its curtailment of imports from countries important as export outlets, and the continued maintenance of high trade barriers in the foreign markets for German goods.

The German policy of restricting imports is particularly onerous with respect to American exports since the balance of trade between the United States and Germany has become increasingly unfavorable to the latter country during the last year. The result is that imports from the United States, in particular, are being greatly reduced and, to the fullest extent possible, such imports are being diverted to other countries which offer better opportunities as markets for German goods.

The movement toward increased import duties in China, which has become an important outlet for certain American agricultural products, furnishes another example of increased trade restrictions. During the last year China increased its duty on raw cotton, partly for the purpose of increasing its revenue but also for the purpose of providing additional protection for its cotton-growing industry. The duty on cotton now amounts to the equivalent of 1½ cents per pound, compared with the former small revenue duty of about one-half cent in December 1933. China also increased its duty on wheat flour to 73 cents per barrel, which has proven to be a serious impediment to exports of wheat flour into that country.

The development of barter arrangements between countries gained new impetus during the year. Although this tendency has been noticeable since the beginning of the depression, it has been most evident during 1934. Many instances can be cited of arrangements between governments looking toward the direct exchange of goods, thus relieving the acute exchange situation in certain important European countries. A few specific instances will best illustrate this development. Poland has entered into an agreement with Egypt to use a certain percentage of Egyptian cotton in exchange for Egypt's agreement to buy Polish goods, including cotton textiles. Germany has arranged for an exchange of soybeans from Japan to be compensated by the purchase of German fertilizers and other products. Arrangements of this sort between Germany, Czechoslovakia, and Austria, with the agricultural-surplus countries of the Danube Basin are numerous. Austria and Hungary, in particular, have made and continue to make many such arrangements.

The tendency toward bilateral trade arrangements, in connection with which many countries are setting out deliberately to balance trade individually with other countries, if continued, will work to the great disadvantage of American export trade. This is true because the United States has customarily had a large excess of merchandise exports to important agricultural deficit countries. In fact, the only important exception to this rule is Japan. Obviously it will be impossible for most countries to arrive at anything like a balance of trade bilaterally with other individual countries, but it is clear that the United States stands to lose perhaps more than any other agricultural-exporting country from such a tendency. It is increasingly clear that the most effective means of combating such developments, so far as the United States is concerned, would be to explore every means of increasing the importation of goods from foreign countries which in the past have offered important outlets for our agricultural products.

The one significant development looking toward relaxation in world-trade barriers is found in the tariff-bargaining program of the United States. The work on foreign trade agreements is being vigorously prosecuted. At the present time, announcements have been made of intentions to enter into negotiations with 12 foreign countries. From the viewpoint of American agricultural exports it is significant that none of these countries is a major outlet for agricultural products. Consideration is being given to the possibilities of agreements with such countries but it does not appear probable that trade agreements that would result in a substantial expansion in our agricultural exports are likely to be concluded with the major agricultural-deficit countries in time to be effective during the remainder of the 1934-35 marketing season. It is too early to forecast the possibilities of concluding arrangements favorably affecting the marketing of the 1935 crops. The most that can be said at present is that experience to date indicates that progress in opening outlets through the tariff-bargaining program will be slow.

PRICES

During the past year wholesale prices of the several groups of commodities have moved into a more balanced relationship. Prices of agricultural products have advanced relative to the prices of nonagricultural products. At the same time prices of many other commodities which had advanced markedly during 1933, notably textiles and leather products, have declined in 1934.

Wholesale prices in the United States increased from 104 percent of the 1910-14 average in October 1933 to about 112 percent in late October this year. This rise has been accounted for almost wholly by advances in prices of farm products and foods, as prices of nonagricultural products combined (other than farm and food) have been practically unchanged since October 1933. Wholesale prices of farm products, which declined further than prices of other groups of commodities prior to March 1933, have since had the greatest advance. The disparity between prices of farm products and non-farm products has thus been markedly reduced, especially since December 1933. Despite the marked advance from the low point of the depression, prices of farm products in percentage of the pre-war average are still the lowest of any specified group of products whereas prices of building materials, house furnishings, fuel, and lighting products, are the highest.

From April 1933 to the end of January 1934, when the dollar was revalued, there was a substantial difference in the rate of increase in the prices of those export and import commodities which are influenced by international market conditions as contrasted with the increase in the prices of commodities which are influenced primarily by domestic conditions. During this period, the prices of international commodities fluctuated closely with the foreign-exchange value of the dollar, and at the time the dollar was revalued were approximately 70 percent above the level of March and the first half of April 1933. The index of the Bureau of Labor Statistics (which, although including these international commodities, is heavily weighted with domestic commodities, including a large proportion of finished goods) advanced only about 25 percent during the same period. Since February 1934 there has been a further advance in average prices of international commodities. The Bureau of Labor Statistics index has also advanced slightly owing chiefly to the rise in prices of farm products occasioned by reduced supplies.

There still continues a wide disparity between the prices of international and domestic commodities in the United States. This situation is of particular

interest to agricultural producers because the relatively higher prices for international commodities, such as cotton and wheat, may afford an additional stimulus to their production in countries that have depreciated currencies. Although the rise in prices of many of these commodities only restores the relationship that existed between such commodities and the wholesale price level prior to the beginning of this depression, the difference that exists between these prices will be an important factor in stimulating production and/or in reducing consumption of some of the export and import commodities.

Judging from the experience of European countries in the post-war period, it may be anticipated that a considerable disparity will continue to exist for a long period after revaluation. As long as this disparity continues, the higher level of prices for international commodities tends, in varying degree (1) to encourage the production of export commodities, (2) to discourage the consumption of imported commodities, and (3) to encourage the substitution of domestic for imported goods. These forces tend to bring about a relative increase in world supplies of international commodities. Such increased supplies tend to lower prices of international commodities relative to domestic commodities and are factors tending toward a reduction of the disparity between the two groups of prices.

The forces that tend toward the elimination of this disparity through a rise in domestic prices are usually more prompt in bringing about a readjustment than are the forces tending toward a reduction in international commodity prices. Usually the devaluation of a nation's currency is effective in raising domestic prices through (1) increasing the prices to producers of export food products and raw materials, (2) increasing industrial production for the export market as a result of the competitive advantage accruing to manufacturers of finished and semifinished goods through a reduction in gold prices, and (3) increasing the incomes, through higher prices and increased output, of producers of domestic goods that can be substituted for imported commodities.

In the post-war period, when European currencies were depreciating, there was a continued upward movement of industrial production, stimulated by the competitive advantage in the export field, which tended to remove much of the price disparity between the two groups of prices. At present, however, import quotas and other trade barriers are so restricting our export outlets for manufactures that the usual stimulus from a devalued currency has not been fully effective in increasing domestic purchasing power through increased industrial production for export. At the same time, producers, particularly agricultural producers, of export commodities have utilized a considerable portion of their increased income for the repayment of debts and accumulated obligations. Such repayments have not been offset fully by new advances, and as a consequence the higher income to export producers has not been reflected in a corresponding increase in the demand for domestic commodities. Urban consumer incomes have also been affected by the higher prices paid for imported commodities. Inasmuch as the United States has imported approximately as much as it has exported since April 1933, much of the stimulus that comes from currency devaluation has been absent.

Any change in foreign monetary policies during 1935 would be a factor affecting the demand for agricultural products. Should the currencies of the present gold-standard countries decline moderately, relative to the dollar, such developments, insofar as they result in increased industrial activity within those countries, will tend to increase the world demand for foodstuffs and raw materials. With the present rigid import quotas and rationing of foreign exchange, increased trade balances would make more foreign-exchange funds available for the purchasing of imports, and would tend to offset, at least temporarily, the higher currency prices of imported commodities in those countries depreciating their currencies. If the currencies of countries competing with this country in the field of industrial exports are depreciated materially below the exchange values existing immediately prior to 1931, it would adversely affect our industrial exports and would react upon urban consumer purchasing power.

AGRICULTURAL CREDIT

Except in the worst 1934 drought areas, the credit situation in 1935 should be materially better than it has been for several years. Even in these drought areas, credit should be reasonably ample for those who have security to offer. The new as well as the older Government-sponsored credit agencies are now well equipped to supplement the private agencies. The number of drought-

stricken farmers without security for loans, other than their prospective crops, will doubtless be exceptionally large. These farmers will require special consideration if their credit needs are to be met.

For the country as a whole, the demand for production credit in 1935 probably will exceed somewhat the demand in 1934. The prices of goods purchased by farmers may be expected to be somewhat higher than last season, particularly when prices for feed and seed are included. The accumulated needs for equipment, repairs, and improvements are exceptionally great. Manufacturers of fertilizer anticipate slightly larger sales on credit in 1935 than in 1934. These manufacturers also expect that their lines of credit will average materially higher for the coming year. Although the farmers, outside of the worst drought areas, will enter the 1935 season in a cash position materially improved over that of a year earlier, their demand for short-term credit is likely to be relatively large.

Feed shortages of farmers in some of the more important feeding sections will result in their placing fewer cattle than normally in their feed lots during the coming winter. The decreased feeding in these sections will be offset to a considerable extent by increased feeding activities in other areas. The meager 1934 crops in the drought areas will mean, on the other hand, an increased demand for credit during the coming winter for feed to maintain breeding herds and for credit to produce the 1935 crop. Should there be an ample supply of feed next fall in these 1934 drought areas, there will doubtless be a substantial demand for credit to restock the farms and ranges.

The demand for farm-mortgage credit probably will be somewhat smaller in 1935 than it was in 1934. Through the Farm Credit Administration a large amount of refinancing of farm mortgages has already taken place, coupled with a substantial amount of funding of unwieldy short-term personal and collateral debts into long-term mortgage debts. Much of the land that is most likely to seek an early market is held by loan agencies as the result of foreclosures, and such agencies may be expected, in the main, themselves to finance the sale of their farms. Such sales would add, therefore, to the outstanding mortgage debt but without calling for any large amount of advances of new loanable funds.

ADJUSTMENT PAYMENTS

The need of farmers for credit will undoubtedly be affected materially by the agricultural-adjustment payments. The following payments are expected to be made during the remaining months of 1934 and the early part of 1935.

About \$72,500,000 is now being distributed to cotton growers. With the continuation of some form of cotton-adjustment program, as recently announced, additional sums will be paid to cotton growers as rental or benefit payments during 1935. Information on the nature and probable amount of these payments must await further development of the program.

On wheat, the second payment for the 1933 crop and the first payment for the 1934 crop, now being disbursed, will amount to a total of approximately \$100,000,000. The smaller second payment for 1934, following proof of reduction for 1935, will probably be disbursed prior to next year's harvest.

The corn-and-hog payments up to December 1, 1934, will amount to approximately \$200,000,000. Additional corn-and-hog payments on 1934 contracts, in the amount of about \$130,000,000, are expected to be made prior to May 1935.

Payments to tobacco growers, it is estimated, will be about as follows: Last quarter of 1934, \$11,652,000; first quarter of 1935, \$12,605,000; second quarter of 1935, \$8,956,000; and third quarter of 1935, \$2,980,000.

COUNTRY BANKS

The substantial improvement in the condition of country banks, excluding those in the most unfortunate drought areas, should result in more bank credit being available to farmers in 1935. The deposits of country banks are substantially higher than a year ago. Total time and demand deposits of licensed member banks of the Federal Reserve System, located in places of less than 15,000 population in 20 of the leading agricultural States, rose 21.2 percent from September 1933 to September 1934. The rise in the Cotton Belt States was 28.1 percent and in the Corn Belt States 33.5 percent. The number of licensed banks on September 26, 1934, was 15,154 as against 14,163 on October 25, 1933—an increase of 7 percent.

Licensed country banks that are members of the Federal Reserve System held cash reserves and United States securities on June 30, 1934, in the abnormally high proportion of 44 percent of their deposits. With the improvement that has occurred in farm income, except in areas most severely affected by the drought, the credit status of farmers has been materially raised. These conditions, together with a change in the attitude of bankers toward local loans, suggest that in virtually all parts of the country, except the worst drought areas, a larger part of the farmers' short-term credit needs will be met by local-bank loans in 1935 than in any of the preceding 3 years.

FEDERALLY SPONSORED PRODUCTION CREDIT AGENCIES

The increased capacity of the institutions now operating under the Farm Credit Administration to supply short-term and intermediate credit is indicated by the fact that during the first 9 months of 1934 these institutions advanced such credit to a total amount of more than \$320,000,000 as compared with \$260,000,000 during the year 1933 and \$240,000,000 during 1932. Of the short-term credit extended during the first 9 months of 1934, approximately \$75,000,000 represented loans by the newly organized production-credit associations, \$110,000,000 by the regional agricultural-credit corporations, \$50,000,000 by the emergency crop- and feed-loan offices, including feed loans in drought areas, and \$85,000,000 by the Federal intermediate credit banks to private financing institutions outside the Farm Credit Administration.

Whatever may be expected in later years from rural credit unions that now may be organized under a Federal law administered by the Farm Credit Administration, or from those already existing, or those that may be organized under State laws, such institutions are not likely to become a very significant source of farm credit during 1935. Many closely knit rural communities and organized rural groups, however, may find such institutions of real value, particularly in localities that do not have satisfactory banking facilities. Hitherto credit unions in the United States, as agencies for savings and loans, have appealed primarily to groups of urban wage earners.

The Federal intermediate credit banks are continuing to offer an almost unlimited line of credit at low discount rates to the production-credit associations and other local financing institutions. By reason of the highly favorable market for their debentures these banks were able to drop their discount rate to 2 percent last May, and this rate is still in effect. Under present conditions the maximum interest rate to farmers on loans discounted with the Federal intermediate credit banks is 5 percent.

The production-credit associations now number more than 600. These associations, organized under the 12 Federal production-credit corporations, cover every agricultural county in the United States and the island of Puerto Rico. As most of the associations were not in operation until the late spring months of 1934, it is expected that the amount of loans by these associations during 1935 will be materially increased.

Since the spring of 1934, the regional agricultural-credit corporations have been in process of orderly liquidation, and credit is being extended by these corporations only in connection with the liquidation of existing loans.

The number and relative importance of agricultural-credit corporations and livestock-loan companies, all but one of which are incorporated under State laws, and which discount with the intermediate credit banks, will probably decline further in 1935. In some districts, however, the reduction in number of these corporations may be offset by an increased business of those remaining in operation. The outstanding discounts on September 30, for these institutions, were \$63,000,000 in 1934, against \$71,000,000 in 1933, and \$81,000,000 in 1932.

The existing abundance of strictly short-term credit is indicated by the rates quoted in the central money markets (October 1934); one-eighth to three-sixteenths percent on acceptances, 1 percent on call loans, and three-fourths to 1 percent on commercial paper. How long these low rates will prevail is uncertain. Any appreciable expansion in bank credit occasioned by increased commercial demand would normally be expected to bring about an increase in these open-market interest rates.

CREDIT FOR COOPERATIVES

'Credit for farmers' cooperative associations promises to be available in ample amounts and on favorable terms during 1935. Loans to cooperative associa-

tions by Federal farm-credit agencies during the first 9 months of 1934 amounted to nearly \$60,000,000, as compared with the same amount for the entire year of 1933, and approximately \$125,000,000 during 1932. Of the loans during 1934, nearly \$25,000,000 was extended by the Federal intermediate-credit banks, more than \$30,000,000 by the banks for cooperatives, and \$5,000,000 from the revolving fund of the Agricultural Marketing Act.

COMMODITY CREDIT CORPORATION

The amount of funds advanced to farmers by the Commodity Credit Corporation will have a substantial bearing on the credit needed from other sources for 1935. Corn loans, based upon a loanable value of 55 cents a bushel, will be made to farmers in Ohio, Indiana, Illinois, Missouri, Iowa, Minnesota, Kansas, Nebraska, South Dakota, and Colorado. It is estimated that from \$30,000,000 to \$50,000,000 of such loans will be made on 1934 corn and that approximately \$20,000,000 of loans on 1933 corn will be renewed. About \$121,000,000 was loaned on 1933 corn during last winter and spring. These loans were based on a loanable value of 45 cents a bushel.

It is estimated that approximately \$200,000,000 of new loans will be made on stored cotton by this corporation, on the basis of 12 cents a pound. Such loans on cotton of the previous crop totaled about \$101,000,000 and were made on the basis of 10 cents a pound. Part of the latter loans will be renewed or extended and may be increased to 12 cents a pound.

MORTGAGE CREDIT AGENCIES

The supply of farm-mortgage credit in 1935, as in the recent past, will be primarily dependent upon the agencies of the Farm Credit Administration. The volume of new loans made by private agencies during the year may be expected to remain relatively small. Reports from mortgage bankers indicate, however, a slightly larger volume of loans made in 1934 than in 1933 and a moderate continued increase in the supply of mortgage credit from this source. Difficulty in finding a market outlet for new mortgage loans is given as a partial explanation of the relative inactivity of these agencies. The volume of new loans made by life-insurance companies has been smaller in 1934 than in 1933.

The refinancing program of the Farm Credit Administration during the last year and a half has aided greatly in improving the farm-mortgage debt situation. The continued large volume of pending loan applications and the facilities of the Farm Credit Administration indicate that a substantial number of additional farmers will have their mortgage terms and conditions improved during the coming year.

The new farm-mortgage loans made by the Federal land banks and the Land Bank Commissioner during the period from June 1, 1933, through September 30, 1934, totaled nearly \$1,275,000,000, of which about \$525,000,000 was in the form of Commissioner loans and \$750,000,000 in the form of Federal land bank loans. Of these loans, about 70 percent was used to refinance existing mortgage debt and 20 percent to refinance short-term debt and to pay taxes. Only about 10 percent was used for purposes other than refinancing. The amount of "scale-down" of debt in connection with this refinancing has been equal to approximately one-fourth of the prior indebtedness of borrowers that obtained scale-downs, or nearly 5 percent of the total amount loaned. Hence the actual increase in farm-mortgage debt as a result of these loans does not exceed 5 percent of the prior indebtedness of the borrowers.

The Federal Farm Mortgage Corporation was established during the early months of 1934 to provide additional funds for making Commissioner loans and to provide a market for Federal land bank bonds during the period of urgent demand for refinancing of existing debt. The corporation is authorized to issue \$2,000,000,000 of bonds guaranteed as to interest and principal payments by the Federal Government. Not to exceed \$600,000,000 of these bonds, or the proceeds from their sale, may be used for making Commissioner loans to supplement the \$200,000,000 authorized in 1933 for this purpose. Approximately \$525,000,000 of Commissioner loans have been made out of the authorized total of \$800,000,000.

During the period from May 1, 1933, through September 30, 1934, the Federal land banks received more than 800,000 applications for approximately \$3,500,000,000 of Federal land bank and Commissioner loans. The monthly receipts of applications, however, have shown a marked decline during the last 12 months.

As compared with more than 75,000 applications during October 1933, the receipts of new applications had dropped to less than 25,000 per month by May 1934.

DEBT DELINQUENCIES

The reduction in the amount and the frequency of delinquent loans that has occurred during 1934 may be expected to be even more pronounced during the coming year, except in those areas that were most severely affected by the drought. The amount of Federal land bank loans upon which installments were delinquent reached a peak of over 60 percent in May 1933. By August 1934 such delinquent loans had dropped to 35 percent of the total loans outstanding. Although a part of this decrease in the percentage of delinquency was due to the large volume of recently refinanced loans, there was a decrease during the 15-month period of nearly 10 percent in the actual amount of loans with delinquent installments. This decline in delinquencies was relatively large in the Southern and Pacific States and even larger in the New England and Middle Atlantic States, but it was slight in the North Central States, especially in the areas affected by the drought. Reports from mortgage bankers indicate that delinquencies on private loans also declined slightly during the year. These bankers estimate the loans in foreclosure as approximately the same as a year ago.

TAXES AND TAX DELINQUENCIES

The farm-tax situation, like the debt situation, has recently shown some improvement. Farm real-estate taxes per acre levied in 1933 were about 14 percent less than those levied in 1932. A further decrease in these taxes of 5 to 10 percent seems probable in the 1934 levies, with the benefits to farmers from this decrease partially offset by substitute taxes. Most of the 1934 levies will be payable during the 1934-35 crop-marketing season. It is anticipated that the delinquencies of current levies will be fewer and payments on old delinquencies will be greater than during recent years. In certain localities some tax delinquencies are being settled by compromise payments. The decrease in property taxes is being accomplished in part by substitution of sales taxes or other sources of revenue, and in part by reduction in expenditures.

FARM-DEBT ADJUSTMENTS

Voluntary local committees for handling cases of overburdensome farm debts are operating in 43 States. These committees provide an informal means of adjusting debt differences between creditors and farm debtors. In all, more than 2,500 county committees have been formed, and it is estimated that these committees have aided in the adjustment of more than 30,000 farm-debt cases involving indebtedness in excess of \$200,000,000. The work of these committees has been an important factor in reducing the number of foreclosures. They have attempted to adjust excessive farm-debt cases through the scaling down of the indebtedness. In other instances, they have kept the farmer on his farm by means of an extension agreement which gives him an opportunity to improve his financial condition.

The recent amendments to the Bankruptcy Act providing for the appointment of debt-conciliation commissioners in every agricultural county, and for more liberal terms in retaining farm ownership under the jurisdiction of the bankruptcy laws, should also have some effect in reducing the number of forced disposessions. As yet, however, the number of farmers availing themselves of these new bankruptcy privileges has not been significantly large.

FARM LABOR, EQUIPMENT, AND FERTILIZER

The price of commodities and services used in agricultural production probably will average somewhat higher in 1935 than in 1934. The sharp advances in feed and seed prices since June have raised these indexes about 34 and 36 percent, respectively, above those prevailing in the spring of 1934. Prices of feed and seed will continue to be relatively high, at least until the 1935 crops are harvested. Wage rates are expected to be higher in 1935. Farm-machinery prices also are likely to show a slight advance. Prices of equipment, supplies, and fertilizer probably will average about the same during the spring of 1935 as a year earlier, but prices of building materials may be slightly lower.

The general level of prices paid by farmers for commodities used in production and for farm wages advanced from 107 percent of the pre-war average in September 1933 to 120 percent in September 1934. Farm wages, based on the October 1 report, advanced from 86 to 93 during the same period, mainly because of the decreased supply of farm workers available. Feed prices rose sharply during last year from 90 to 122 owing to the extremely poor yields of feed crops in drought-stricken areas. Prices of seed advanced even more sharply from 111 to 162. Prices paid for farm machinery, fertilizer, and building materials advanced between 5 and 7 percent from their September 1933 levels principally as the result of increased costs of materials and labor in manufacturing industries, while costs of equipment and general supplies rose moderately from 106 to 109 percent of the 1910-14 average. All major commodities purchased by farmers during 1934 showed some increase in price over their 1933 levels.

FARM LABOR AND WAGE RATES

The supply of farm workers available for hire should remain approximately the same next year as in 1934. The demand for hired farm workers probably will be greater as a result of higher total cash incomes and prospective increases in crop production. In view of the anticipated increase in the demand for farm labor, farm-wage rates in 1935 should average higher than in 1934.

Farm-wage rates increased slightly more than seasonally during 1934, the index rising from 81 percent of pre-war on January 1 to 93 percent in October, the highest point reached since April 1932. The October 1 index was 7 points higher than a year earlier. The index rose 9 percent from January 1 to April 1, as compared with an average seasonal increase of 3 percent during the same period in the predepression years, 1925-29. From April to July the index rose only 2 percent, or half the usual seasonal amount, while from July to October twice the average seasonal advance, or 3 percent, was recorded. The weighted average index for the first 9 months of 1934 was 91, an increase of 10 points over the average for the corresponding period of 1933.

The supply of farm labor available for hire reached the high level of 127 percent of normal in January 1933. It has declined at a fairly constant rate since that time. On October 1, 1933, the farm-labor supply was reported by crop correspondents at 111 percent of normal. On October 1, 1934, the supply was only 5 percent above normal. The reduction in supply has been due to increased industrial activity since the first quarter of 1933, and the absorption of many surplus farm workers by Federal work and relief projects. Very little further decline in labor supply is anticipated for next year. The extent of decline will depend upon the degree of improvement in business activity. If business activity improves materially, surplus farm workers will be attracted to nonagricultural pursuits, because of the relatively higher level of wage rates in these industries. Closer investigation of persons on relief rolls, and the ruling that those refusing offers of work will be dropped therefrom, may result on the other hand in an increased supply of farm labor. In communities where farm wages are below a subsistence scale, however, there may be an inclination to continue families on relief.

The demand for farm labor was practically the same in October 1933 and October 1934, the index on the latter date standing at 68.5 percent of normal. In April and July the index was somewhat higher, being 69.4 in April and 70 in July. The decline since July followed, as a result of reduced labor requirements in the drought areas, and was most marked in the West South Central, West North Central, and Mountain regions. The demand for farm labor in the New England and East North Central States increased from July to October as a result of the improvement in the level of prices for farm products. Should climatic conditions be more nearly normal, requirements for farm labor throughout the United States will be greater in 1935 than in 1934. Crop-adjustment programs probably will allow some increases in acreages above those planted last year. This is also likely to result in a moderate increase in labor requirements.

BUILDING MATERIALS

Prices paid by farmers for building materials probably will average lower during the first 6 months of next year than in the first half of 1934. To date, wholesale prices of lumber have been reduced substantially from the relatively high levels prevailing in December 1933. If the usual lag between wholesale and retail prices is maintained, these reductions will not be fully reflected in

prices paid by farmers until the middle of 1935. Since lumber is the principal building material used by farmers, the cost of all materials probably will tend downward although other building-material prices are expected to show but little change from present levels. Further reductions in retail prices of all building materials may occur in the latter half of 1935 if price-maintenance provisions are modified in present lumber codes. Labor costs of building on farms are likely to show the same relative changes as farm-wage rates. Wages for carpenters and other craftsmen in rural areas, although usually higher than general farm-wage rates, ordinarily are not governed by union wage scales.

The index of prices paid by farmers for building materials advanced from 119 percent of the 1910-14 average in March 1933 to 149 percent on June 15, 1934. Wholesale prices of building materials advanced sharply from March to December 1933, but have remained practically unchanged since that time. The wholesale price of lumber advanced from 58 percent of the 1926 price level in March 1933 to 88 percent in December. The decline in the wholesale lumber price index from 88 to 82, which occurred from December 1933 to September 1934, offset advances in wholesale prices for structural steel, plumbing and heating supplies, brick and tile, cement, and wire and nails. The combined wholesale price index for building materials hence remained practically the same. From June 1934 to September, however, the index of prices farmers pay declined 4 points to 145 percent of the pre-war base. This decline followed the course of wholesale lumber prices downward, but lagged in time by approximately 6 months.

FARM MACHINERY AND EQUIPMENT

Prices paid by farmers for farm machinery are likely to advance slightly in 1935. Advances in retail prices of machinery, however, should be slight, since prices of these items declined less than those for any other group from 1929 to 1933. Higher wage rates and higher material costs were followed by an advance of about 9 percent in wholesale prices of farm machinery during the spring and summer of 1934. Retail prices have shown an increase of 3 percent during the same period. The industry appears to have an improved outlook as evidenced by large production schedules planned by several of the companies, particularly in the manufacture of tractors, and the pick-up in fall sales of equipment. It is estimated that sales in 1934 will be 55 percent greater than sales in 1933.

The demand for electricity for agricultural purposes continues to increase. The calendar year 1933 registered an increase of 4,109 farms receiving electrical service, bringing the total up to 713,558 farms as of December 31, 1933, or 11.5 percent of the total farms in the United States. During the 1932 calendar year, 6,289 farms obtaining this service were added to the previous year's total. Further improvement in farm income is likely to be accompanied by a continuation of this trend and an increased use of electrical equipment on farms.

FERTILIZER

Retail prices of mixed fertilizers in the spring of 1935 will probably be about the same as in the spring of 1934. Prices of potash salts and tankage will be lower, of mineral ammoniates about the same or somewhat lower, but prices of cottonseed meal and superphosphate will be higher than a year earlier. The advance in prices of farm products last year indicates an increase in fertilizer consumption in 1935. The increase will depend in part on the extent of the modification of present acreage-control measures of the Agricultural Adjustment Administration.

During the first 9 months of 1934 wholesale prices of fertilizer materials averaged 4 percent higher than in 1933, but prices paid by farmers for fertilizer were 11 percent higher. In 1933 wholesale prices of fertilizers were often below cost, and the margin between retail prices and cost of materials averaged very low. In 1934 under the fertilizer code a more nearly normal margin was maintained, and as a result retail prices rose more than the price of materials. With the general tendency to modify the price-fixing features in codes, it is possible that the margin might be reduced during the coming season.

Wholesale prices of potash salts were maintained at about their predepression levels from 1930 to the middle of 1934. In the third quarter of 1934, however, wholesale prices declined about 40 percent, but up to September 1934 only a part of this decline had been reflected in retail prices.

The heavy slaughter of livestock has resulted in a marked increase in the production of tankage and prices have declined sharply. Prices in August and September were less than half as high as in 1934. Cottonseed meal, however, is decidedly higher in price compared with a year ago. There have been only small changes in prices of mineral ammoniates in the last year, while superphosphate prices have increased.

THE FARM-FAMILY LIVING

[A report of a joint committee representing the Bureau of Home Economics, the Bureau of Agricultural Economics, the Agricultural Adjustment Administration, and the Extension Service]

The total cash income available to farm families for living expenses has shown a distinct advance from 1933 to 1934, and some further improvement, but of smaller magnitude, may probably be expected in 1935. This increase in income will probably be offset only in part by a rise in the average level of prices of commodities farmers buy for family use. Although some further rise in the level of food prices may be looked for during the coming year, the prices of other goods purchased for family living will probably continue at about their present levels. A small improvement, therefore, in the purchasing power of farm families may, in general, be expected. In the areas severely affected by the drought, however, cash incomes during 1935 will be extremely low, at least until the new crops are marketed, and the number of farm families on relief will undoubtedly continue to increase.

Throughout all of the drought-stricken areas the supplies of home-grown foods will be lower than in many years, and expenditures for purchased foods will absorb an unusually large share of the cash available for living expenses. The quantities of vegetables and fruits canned and stored for winter use are far below normal, and in many homes shortages will also be felt in milk, butter, and eggs provided by the farm. Supplies of home-canned or home-cured meats, however, will be abundant, owing to the unusually large slaughter of cattle, hogs, and poultry for home use. In areas not affected by the drought many farm families are entering the winter with a very generous food supply as a result of the extensive program of home-food production and conservation carried on during 1934 by the Extension Service and by relief agencies.

Those families who will enjoy some leeway in cash expenditures, after the cost of food and other necessities of living have been met, may increase somewhat their expenditures for clothing and for home furnishings during 1935 in order to replace articles that have seen some years of wear. Additional expenditures may also be expected for the repair and running of the family automobile, and some increase may appear, especially during the spring months, in expenditures for repairs and improvements on the house in response to the stimulus of the Federal housing program. In many farm homes the increased funds available for family living will probably be devoted, as in 1934, to sending the young people to college. In a large proportion of homes, however, payments on debts and other obligations will continue to absorb a large part of the surplus of cash over essential living expenses.

CASH INCOME RECEIVED FROM AGRICULTURE

The cash income received by farm families from Agriculture during 1934 has continued the upward trend which began during the first half of 1933. The improvement is due in part to the advance in the prices of agricultural products and in part to the rental and benefit payments made by the Agricultural Adjustment Administration and to income from the emergency sale of cattle, sheep, and goats to the Government. But to the extent that the increased income this year resulting from emergency sales of livestock represents a reduction in livestock inventories below what normally would have taken place, farmers have gained in current receipts by sacrificing assets. Those farmers who have been forced to a severe liquidation of livestock will be in a weakened economic position until their livestock numbers are restored.

Preliminary estimates place the total cash income from the sale of farm products, including payments by the A. A. A., at approximately \$6,000,000,000 for the calendar year 1934. This figure represents an increase of 19 percent over the figure of \$5,051,000,000 for 1933 and 39 percent over the low level

reached in 1932. It is still, however, only 59 percent as large as the average annual cash income received from farm marketings during the 5 years preceding 1930.

This increase of almost \$1,000,000,000 in cash income for 1934 has been partly offset by an increase in production expenditures of farmers. During 1933 these expenditures, on the whole, were slightly lower than in 1932, continuing the decline of the preceding 3 years. For 1934, expenditures for interest and taxes are somewhat lower than in 1933, but commodity prices and farm wages are noticeably higher. The prices paid by farmers for commodities used in production averaged 16 percent higher during the first 9 months of 1934 than in the same months in 1933, and wages paid to hired labor have averaged about 14 percent higher. The increase in total expenditures for production during 1934, however, is not as large as the increase in cash income, and the balance of income available for family living and for improvements and savings will probably show a distinct gain over 1933.

Income estimates by States for 1934 are not yet available, but the principal increases over 1933 incomes may be expected in the dairy and tobacco sections and in those regions in which crop production has been fairly good, especially in the States east of the Mississippi River and in the Pacific Coast States.

The seasonal decline in farm income from the fall peak in October may be slightly greater than usual, unless cattle marketings continue large this winter. The level of income during the first half of 1935, however, is expected to average higher than that of a year earlier. If crop production in 1935 is more nearly normal, farm marketings of crops will increase and farm prices are likely to readjust themselves to the larger supplies. But increased marketings of crops will tend to maintain the level of gross farm income, especially if the level of domestic demand through the year averages higher than in 1934.

The income that farmers will receive during 1935 from rental and benefit payments cannot be estimated at this time, as the amount will depend upon whether part of the payments on programs now in operation is made after the beginning of the new calendar year and upon the new provisions that are adopted for 1935 programs. Present indications are that income from the sale of farm products, plus rental and benefit payments, may show some advance over the 1934 level, but it is not probable that this increase will be as large as the increase from 1933 to 1934.

CASH INCOME RECEIVED FROM NONAGRICULTURAL SOURCES

Receipts from sources other than agriculture, such as outside employment, the tourist trade, and the sale of home-made products, have continued to form an important part of farm-family income during 1934. For many farm families, in fact, these sources have supplied practically all of the cash available for living expenses during the year.

Earnings from employment in nonagricultural industries by members of farm families have probably shown a slight gain over 1933, and employment in civil works, public works, and work-relief projects has further supplemented incomes in many farm homes. It is difficult to estimate the probable trend in employment during 1935, but there seems to be little reason to anticipate an increase in farm-family incomes from this source during the year, unless additional opportunities are opened up as a result of new public works and relief programs.

Income from the sale of baked goods, canned goods, and other home-made products through women's cooperative associations, curb markets, and roadside stands has also advanced somewhat during 1934. The interest of farm women in these enterprises as a direct source of cash is leading to improvements in marketing methods and facilities and to better standards of quality for the products prepared for sale. The growth of this movement may be expected to continue during 1935, and the income received from this source may be somewhat greater than in preceding years.

The income received by farm families in some sections of the country from tourists may have increased somewhat during 1934, since travel within the country has been stimulated by the improvement in national income and by unfavorable exchange rates for foreign travel. Some further increase in receipts from tourists may appear next spring and summer, if further improvement occurs in the incomes of urban families.

Although there has been a general improvement in the incomes received by farm families during 1934, a considerable proportion of the farm population has been unable to earn sufficient cash to meet essential living expenses, either

through the sale of farm products or through other sources of income. Some of these families have managed to finance themselves by drawing on past savings and investments or by borrowing, but many have had to turn to relief agencies for support. The number of farm families on relief rolls in the fall of 1933 was estimated as about 600,000. Although the total relief load has remained practically the same during the last 12 months, the number of farm families on relief has increased in proportion to the total number of families on relief. In the areas affected by the drought this increase has been especially evident during recent months and will undoubtedly continue into 1935 until the new crop is marketed.

HOME PRODUCTION FOR FAMILY USE

In addition to their cash incomes from the sale of farm products, and from other sources, farm families derive an income in "kind" of very substantial proportions in the farm products retained for family use. In more than half of the 62 studies of farm-family living made in this country since 1922 in which information was given on home-produced goods, the value attributed to these goods was from 30 to 50 percent of the value of all goods and services purchased for family living.

Of the farm-furnished goods, food ranks first in value. In 23 of the studies just mentioned the home-produced food was considered worth from one-fourth to one-third as much as all goods and services purchased for family living, and in 30 others home-produced food was considered worth from one-third to two-thirds as much. A conservative estimate of the average value of home-produced food is approximately \$65 per person per year (values between farm and retail prices adjusted to September 1934 levels by the Bureau of Labor Statistics food index). During recent years, however, many farm families have produced much more food than is indicated by the above figure; low cash incomes and the disparity between farm and retail prices have fostered extensive home-production programs.

Extension programs for 1934 reemphasized the economic and health value of an annual plan for procuring with a small cash outlay a food supply suited to the nutritional needs of the family. Such plans were put into operation by many self-supporting farm families all over the country. In addition, most States made large-scale plans for home gardens for relief families, for community acreages cultivated as work projects, and for food conservation in community-canning plants in which the work was done by relief labor. Had normal weather conditions prevailed, farm families throughout the country would have enjoyed a generous food supply, not only during the summer of 1934, but also during the winter and spring of 1935. As it has turned out, those living in the South Atlantic and in the East South Central States probably have a more abundant food supply than for many years, whereas families in the drought-stricken Central and Mountain States are entering the winter with a very scanty and unbalanced home-produced food supply.

The drought of 1934 put 1,187 counties in 24 States on the emergency list, and over a wider area the drought damaged more or less seriously grains, pastures, field and truck crops, and home gardens. Well-laid plans for home food production were disrupted. Shortage of feed and water forced the sale or premature slaughter of large numbers of cattle, hogs, and poultry for home use, although some meat animals have been held over for early slaughter in cold weather. As a result, farm families in these areas will have an abundance of home-canned or home-cured meats. On the other hand, short supplies and relatively high prices of feed will probably result in a somewhat less plentiful supply of milk, butter, poultry, and eggs than usual, after the pasture season is over. Fortunately, late rains and mild weather over a considerable area have made possible some good fall gardens and some late canning. Nevertheless, in most drought areas pantry shelves and cellars are unusually bare of vegetables and fruit. In the New England and Middle Atlantic States the severe weather in early 1934 greatly reduced the peach and apple crops, so that farm-home supplies of these fruits are far below normal.

Throughout the United States home production of items other than food was maintained at a high level in 1934. During the coming year farm families may be expected to continue to make, clean, and repair clothing, bedding, rugs, and furniture and to prepare many of their own cleaning supplies.

Hence in 1935, as in 1934, an extensive and well-considered home-production program in food and in many other items is likely to continue. Its scope and content will differ from area to area and from farm to farm, and will be deter-

mined by many factors. Among these factors may be mentioned the cash income available for family living, the land and labor available for home production, the information and skill of family members, and the need for conserving cash to meet fixed obligations and to secure goods and services not easily provided by the farm and family.

ADJUSTMENTS IN FAMILY EXPENDITURES

The improvement in cash incomes received by farm families in 1934 has been only partially reflected in increased purchasing power, for the prices which farm families have had to pay for commodities bought for family use have also shown some advance over 1933 levels. Retail prices for these commodities rose sharply from the low point of March 1933 to September 1933. Since then the rise has been very slight, amounting to only 5 percent for all groups of commodities combined up to September 1934. For the first 9 months of 1934 the average level of these prices was 15 percent higher than in the same months in 1933, and for the full calendar years the difference will probably be about 13 percent. This increase in retail prices, however, has not kept pace with the advance in the level of farm income from 1933 to 1934, and there has been, on the whole, a distinct gain in purchasing power.

For many farm families this increase in real income in 1934 has afforded more choice in expenditures than during the last few years. Some families also have more leeway this year than last because they have been able to make long-term plans for debt payments, thus releasing more cash for other items in the family budget. But in the drought areas most of the money available for family living, especially during the last few months, has been needed for the bare necessities of life, and this situation will probably continue until a new crop comes along.

Farm-family disbursements for food usually amount to one-fifth or more of total cash expenditures for family living, but often demand 30 percent or more. For many farm families expenditures for food will be higher than usual during the coming year—in part because of the increased quantities of fruits, vegetables, and other items that must be purchased and in part because of increased prices.

According to the Bureau of Agricultural Economics, food prices were about 16 percent higher during the first 9 months of 1934 than in the corresponding period of 1933, with the September 1934 prices about 9 percent higher than the prices of the previous September. The prices of most foods have increased during the year. Since early summer meat prices, particularly those of pork, have advanced more rapidly than those of most other commodities. The advance in food prices since June, however, has been partly seasonal. A further moderate advance is likely to occur before the end of the year. The general level of retail prices of food in 1935 is almost certain to be above that of 1934, with the rise most pronounced in meat prices.

Since about 15 percent of farm-family expenditures for food usually goes for meat, this rise in meat prices is expected to result in considerable readjustment in these expenditures. When meat prices become too high for the farm-family purse there is likely to be an increasing demand for fish, particularly for canned salmon, of which there was a very large pack this year, with correspondingly low prices. Probably, too, the dried legumes will feature more largely than usual in many farm-family diets.

There is nothing in the present situation to indicate any substantial increase during the coming months in the prices of most staples, such as bread, flour, sugar, and miscellaneous items—articles for which the farm family usually spends about half of its food money. Corn meal, however, will probably advance considerably in price during the next few months. For the many farm families that usually depend on a home-produced supply of this food, but whose crop was insufficient this year, these price increases will add considerably to the food budget.

Supplies of late fruits that are now being marketed, or will be marketed during the fall, winter, and early spring months, are only slightly below those of last year, while supplies of late vegetables are about one-fifth larger than a year ago. Citrus fruits probably will be in abundance, and so will cabbage, carrots, tomatoes, and lettuce. Hence there is no reason to anticipate much, if any, price increase. In the drought areas, however, farm families may need to buy two or three times the quantities they usually purchase if they are to maintain their dietary standards.

Farm families in the past have spent from \$17 to \$60 per person per year for food (values adjusted to September 1934 levels), depending on the scope of their home-production program. Probably \$40 per person per year represents a fair average. Expenditures for food may be considerably reduced by families who produced more than the usual quantities for home use. But in the drought-stricken areas food expenditures will probably need to be increased by as much as 30 percent if the usual dietary level is to be maintained.

Cash expenditures for clothing will probably increase, as many farm families find it necessary to replace outer clothing that has now seen several years of wear. These replacements will cost little more than did such materials a year ago, as clothing prices have advanced only 4 percent from September 1933 to September 1934, according to the Bureau of Agricultural Economics, and it is probable that they will remain fairly stable during 1935.

The need for house repairs is also urgent, and it is expected that the interest aroused in good housing by the rural housing survey of the Civil Works Administration and by the activities of the Federal Housing Administration will influence some farm families to spend more cash on home improvements this coming year.

Some families will undoubtedly spend more money for household furnishings and equipment during the coming year. The retail prices of furniture and household furnishings advanced about 4 percent between September 1933 and September 1934. These prices also will probably continue fairly stable during 1935.

Families who can afford it will spend more money than last year for the repair and care of the family automobile, and will make a somewhat freer use of cash for gasoline to take family recreational and educational trips. More money will probably be spent for recreation than last year, although families will continue to rely largely on home and community resources for recreation at small or no cash expense. More money will also be allocated to education by families with children of college age. There was a decided increase in college enrollment this fall.

ADJUSTMENTS IN PURCHASING METHODS

As cash incomes increased during last year, self-supporting farm families tended to use barter to a lesser extent than in 1933 as a means of securing goods and services. This tendency seems likely to continue in 1935. Many families on relief, however, were encouraged by relief agencies to employ barter to a greater extent than previously, and this effort to increase the level of living without cash outlay seems likely to continue.

In an effort to augment their buying power, farm families have continued during 1934 to buy somewhat more goods through cooperative purchasing associations. In addition to commodities used for farm production, many cooperative associations are now handling such supplies as gas and oil, coal, general merchandise, plumbing and electrical equipment, tires and inner tubes, clothing, and household furnishings. An increasing number of cooperative associations are selling soap, bread, and some other products under their own brands. Cooperative associations located in large centers are developing the business of serving members with home supplies by mail or through warehouses. The number of cooperative wholesale units developed to serve the cooperative buying associations also increased last year.

CONSUMER INFORMATION AND PROTECTION

Interest in consumer-buying information increased substantially during last year. Many schools and colleges, and the home economics extension service, are including this subject in their programs. This development of interest in consumer problems has been greatly stimulated by three governmental agencies: the Consumers' Counsel of the A. A. A., the Consumers' Advisory Board of the N. R. A., and the recently established Consumers' Division of the National Emergency Council. Those agencies will continue during 1935 to examine the operation of codes, marketing agreements, and licenses, from the standpoint of consumer interests and to represent the consumer in the formulation of new policies in the recovery program.

The demand for quality grading and informative labeling for consumer goods has continued during the year, and plans are now being completed for the adoption of uniform methods of grading and labeling canned foods and several

other products. It is probable that 1935 will see a further development of this program.

WHEAT

Since the spring of 1933 wheat prices in the United States have been maintained at unusually high levels relative to world prices. This has been largely the result of two successive years of low production due to poor yields and heavy abandonment of wheat in the United States, but acreage reduction and the removal of surplus wheat from the Pacific Northwest through governmental aid have also tended to increase United States prices relative to world prices. Unless abandonment is heavy and yields are again below average next year, the new crop will provide an export surplus and it is to be expected that prices in the United States may be but little above an export basis during most of the 1935-36 season.

Although prices seem likely to be close to an export basis, by no means all of the gains of the last 2 years will be lost. There has been some improvement in the world wheat situation. Supplies are smaller than last year, and at Liverpool wheat prices in terms of gold are above their levels of last spring. Part of this improvement may be carried over into the next crop season. Furthermore, in terms of the revalued dollar, prices would be increased by about 70 percent even in the absence of any increase in prices in terms of gold. During the latter part of October at Liverpool, December wheat futures were selling for about 75 cents per bushel in terms of United States currency, while at Chicago prices were about 20 cents per bushel above Liverpool. Prices at Chicago during the 1935-36 season may reasonably be expected to average somewhat below Liverpool rather than above. It is to be recognized, however, that so long as United States supplies do not greatly exceed probable domestic utilization plus a moderate carry-over, small changes in the prospect for supplies may cause comparatively large changes in the margin between prices in the United States and Liverpool. Similarly under such conditions, price relationships may be materially altered by any governmental action that may be taken to dispose of surplus wheat.

ACREAGE

Such downward readjustment of acreage as has been made since wheat prices began their rapid decline in 1928 has occurred primarily in the United States. Reductions have also taken place in Canada, Argentina, and Australia, whereas Europe as a whole has greatly increased acreage. The increase of acreage in the normally importing countries of Europe has been the result of wheat prices that have been high relative to prices in exporting countries and in the freely importing markets of the world. The relatively high levels in these countries have been due primarily to high tariffs, to the establishment of import and milling quotas, and to other measures that restrict the use of foreign wheat in those countries.

The harvested acreage of wheat in the world, excluding Russia and China, for the crop year 1933-34 amounted to 247,000,000 acres, compared with a high point of 260,000,000 acres in 1930-31, and 259,000,000 in 1932-33. The reduction from 1932-33 to 1933-34 was due almost entirely to the 10,000,000-acre reduction in the wheat area of the United States. In the United States the area harvested has been reduced from a high point of 63,300,000 acres in 1929 to 47,500,000 in 1933, and 44,000,000 acres in 1934. The area planted in the United States declined from 71,137,000 acres for the 1928 crop to 66,511,000 for 1933 and 58,700,000 acres for 1934. Meanwhile, the Canadian acreage harvested declined from a high point of 25,300,000 acres in 1929 to 24,000,000 in 1934; the Australian area harvested, from a high of 18,200,000 acres in 1930-31 to 13,000,000 in 1934-35, and the Argentine acreage sown from a high point of 22,800,000 in 1928-29 to 18,500,000 (preliminary estimate) in 1934-35. Importing countries of Europe, on the other hand, have increased their wheat area from 51,900,000 acres in 1929 to 57,300,000 in 1934, while in the lower Danube Basin the area has remained practically constant at between 19,000,000 and 20,000,000 acres.

The Russian wheat area, which recovered rapidly in the last decade and reached 92,100,000 acres in 1931, has been somewhat lower in the last 3 years. It amounted to 85,500,000 acres in 1932 and 82,100,000 in 1933. The harvested area for the current season is not yet known, but the sown area is indicated to be about the same as in 1932, 89,000,000 acres. Most of the increase constituted a recovery to pre-war levels, furthermore the increase in Russian wheat

production which has accompanied the extension of acreage has been absorbed largely within Russia and has had relatively little effect on world markets as compared with the effect that a similar increase in another exporting country would have had.

THE WORLD WHEAT AGREEMENT

The World Wheat Agreement, signed in August 1933, is in essence a plan to prevent further increase of acreage in the wheat-importing countries and to bring about a reduction of wheat acreage in the leading wheat-exporting countries for the crops harvested in 1934. The agreement, at the same time, provided for the division of the estimated world import requirements of wheat among the several exporting countries, through the allocation of export quotas for the two seasons 1933-34 and 1934-35. The export quota provisions of the agreement did not succeed in restraining exports of wheat in the manner hoped for. This was chiefly because world demand proved less than was assumed in determining the quotas, with resultant subsidized competition for the existing markets, particularly in the last half of 1933; and because of an unexpectedly large crop in Argentina, which led that country after unsuccessful negotiations to increase its quota, to ship a large quantity in excess of the agreed figure for the season 1933-34. Negotiations among the countries that are party to the agreement, aiming at prolonging and strengthening the plan and making it more flexible, are in progress; some agreement may be reached at the next meeting of the advisory committee in the November 1934 conference of these countries at Budapest.

CARRY-OVER

The world carry-over of wheat into the current season appears to have been somewhat larger than that of a year earlier, although the quantities available for export or carry-over of the principal non-European countries, together with United Kingdom port stocks and quantities afloat, are about 38,000,000 bushels less than a year earlier. This was more than offset by an increase of about 60,000,000 bushels in the carry-over of continental European countries. The United States and Canada were the only important exporting countries for which there was a decrease. The United States carry-over was indicated to be about 100,000,000 bushels smaller than on July 1, 1933, whereas the Canadian carry-over was decreased by only about 20,000,000 bushels. Argentina had an increase of about 46,000,000 bushels and Australia 35,000,000.

As a result of a smaller world crop in 1934-35, it seems probable that world stocks may be reduced to a considerably lower level on July 1, 1935, but they are not likely to be reduced to what may be considered a normal level unless, because of the shortage of feed grains, there is very heavy feeding of wheat during the current season in the United States and Europe.

PRICES

Under normal conditions the spread between United States prices and world prices is closely related to the quantity of wheat the United States exports. Over short periods the quantity exported is determined primarily by the price spread, whereas over long periods the quantity that needs to be exported largely determines how high United States prices are compared with world prices—the larger the surplus the lower the United States price. In almost every year prices in some regions of the United States are on an export basis for at least a part of the year, and this usually means that Chicago prices must be about 10 to 20 cents per bushel (assuming present-day freight rates) below Liverpool during such periods. In exceptional years, such as 1925-26, 1930-31, 1933-34, and thus far during the current year, United States prices have been far above an export basis throughout a large part or all of the year.

In 1925-26 this fact was due to the extremely short crop of United States winter wheat harvested that year. During the latter half of 1930-31 it was due primarily to the operations of the Grain Stabilization Corporation. In 1933-34 relatively high United States prices were due partly to the very short crop of wheat, a crop which was below domestic consumption by about 75,000,000 bushels, but this influence was reinforced by prospective acreage reduction under the agricultural adjustment program and by the governmental aid given to exporting in the Pacific Northwest. During July 1933 the expectation of further depreciation of the dollar was also an important contributing factor.

In the current season production in the United States was even smaller than in 1933, and with a smaller carry-over at the beginning of the year prospects are that the United States carry-over as of July 1, 1935, will be reduced to about a normal level, even though some Durum and Hard Red Spring wheats are imported. In consequence of these short supplies, United States prices have been held at a level little below an import basis for nonpremium wheats.

Prices of wheat in the unprotected markets of the world began to fall rapidly in the latter half of 1929 and continued to do so with little interruption until the late summer of 1931. In Great Britain prices advanced rapidly in the fall of 1931 as a result of the depreciation of the pound sterling, but in terms of the currencies of gold-standard countries prices declined somewhat further in the two following years and reached their lowest levels in the spring of 1934. There was some improvement during the late spring and summer months, but Liverpool futures in terms of our former gold dollar are now a little less than 50 cents per bushel. The rise that has taken place in Liverpool prices since the beginning of 1933, when converted to terms of United States currency, has been due primarily to the depreciation of the dollar.

Even as there has been but little improvement in world wheat prices when measured in terms of gold there has been but little improvement in the world wheat situation. The pressure of surplus stocks has been considerably relieved by 2 successive years of low yields in the United States and Canada, but acreage sown for the world, excluding Russia and China, has declined only a little. Decreases of the wheat area in the United States, and to a lesser extent in Canada, Argentina, and Australia, have been largely offset by increases in Europe, and import barriers against wheat remain very high in most continental European countries. Further improvement in the world wheat situation may be expected, but it will presumably be slow, as will also the further recovery of world prices.

AMERICAN PROSPECTS

For the current season, although total supplies of wheat are equal to ordinary domestic utilization plus about a normal carry-over, supplies of some classes are far below usual utilization. This is particularly true of durum wheat of a type suitable for semolina, and hard red spring supplies are also short. For the last week of October, No. 2 Hard Winter at Kansas City and No. 2 Red Winter at St. Louis were both about \$1 per bushel. No. 1 Dark Northern Spring wheat at Minneapolis was about 15 cents per bushel more, and No. 2 Amber Durum at the same market, about 40 cents more. At Seattle, on the other hand, No. 1 Western White was about 20 cents per bushel under No. 2 Hard Winter at Kansas City. The North Pacific region is the only one where the pressure of surplus supplies has been keeping prices far below an import basis. Prices in that region are so low relative to prices east of the Rockies as to result in some eastward shipment from the coast. Likewise the relatively low prices in the Pacific Northwest have tended to divert the flow of grain from producing regions of western Montana and parts of Idaho away from the West.

The unusually high prices of semolina-type durum wheat will tend to result in an increase of durum relative to hard red spring acreage in the northern Great Plains if seed is available. During the 3-year period 1930-32 the sown area of durum averaged 4,372,000 acres. In 1933 only 3,142,000 acres were sown and 2,310,000 harvested, while for 1934 the areas sown and harvested were about 2,000,000 and 1,061,000 acres, respectively. High prices for well-adapted varieties of seed may prove to be a limiting factor to any material increase of acreage. With a view to meeting the seed-shortage situation, dealers and elevator men have pledged themselves to secure substantial supplies. Such supplies may be supplemented in areas where they are inadequate by seed supplied by the Agricultural Adjustment Administration. Up to October 16 the Administration had acquired 837,440 bushels toward a possible total of around 1,000,000 bushels of durum for such use.

If there should be an expansion of durum plantings to levels approaching those of 1933, it is to be expected that durum prices during 1935-36 would be much lower relative to other wheats than is the case this season. While durum supplies will be held down by a very small carry-over, average yields on an area of 3,000,000 acres would result in a new crop ample for domestic requirements and carry-over. A further increase of acreage, or yields above average, would result in a considerable surplus for export.

No estimates are yet available of the total United States wheat acreage sown or to be sown for harvest in 1935. The average acreage sown for the years 1930 to 1932, inclusive, the base period most used in the wheat contracts for the program of the Agricultural Adjustment Administration is 65,958,000 acres. Acreage-reduction contracts covering 79 percent of this acreage were signed, and cooperating farmers were required to reduce their acreage for harvest in 1934 by 15 percent. Unfavorable seeding conditions, however, reduced spring wheat seedings below the permitted area. The contracts also covered seedings for 1935, but the required reduction for the coming year is 10 percent instead of 15 percent. This represents an increase of about 2,600,000 acres in the permitted area of contract signers.

The estimated acreage planted for the 1933 crop was 66,511,000 acres and for 1934, 58,700,000 acres. The estimated acreage seeded for the 1934 crop, therefore, represents a reduction of 11.0 percent from the base period 1930-32. Part of the reduction in acreage for the 1934 crop was due to unfavorable seeding conditions. The extent to which reduction from the base period of acreage under contract will be offset by increased plantings on the part of nonsigners has not yet been determined. There is some indication, however, of intentions to increase the wheat acreage, especially in the eastern Wheat Belt, where a much smaller proportion of the farmers signed wheat contracts than in the Great Plains and Western States. The need for additional fall and winter pastures due to short feed crops has also stimulated seeding.

It would seem from an examination of all of the factors that the acreage which has been, and will be, planted for harvest next year is likely to be 5 or 6 percent less than the acreage sown for the base period 1930-32, but above that seeded for harvest in 1934. This would indicate an area to be sown for harvest in 1935 of somewhere around 62,000,000 acres. This acreage, with average abandonment and yields, would result in a crop of approximately 790,000,000 bushels. Such a crop would exceed probable domestic utilization for the crop year 1935-36 by about 165,000,000 bushels. There is only one chance in three that the divergence of abandonment and yields from their average will result in a crop more than about 100,000,000 bushels above or below that suggested by the averages.

The actual situation will, of course, depend largely upon yields in 1935. However, the above reasoning indicates that the chances are good that the United States will have a considerable export surplus of wheat in 1935-36. In the absence of any special measures (such as governmental aid to exports and storage) to relieve its pressure on the market, such a surplus would probably result in the United States prices both west and east of the Rockies being on an export basis at some time during the year and in an average level of prices not much above an export basis.

Owing to the large supplies of wheat in the exporting countries and to the restrictions placed on the use and importation of foreign wheat in most of the importing countries, combined with the fact that the wheat produced in the importing countries is generally of weak quality, the import demand will be mainly for high-grade strong-quality wheats. Premiums, consequently, will continue to be paid in world markets for high-grade strong wheats. A somewhat similar situation also prevails in the domestic market of the United States. With available supplies of wheat considerably in excess of requirements, millers will be more particular as to their purchases. Consequently, the best market prices will be obtained by farmers who plant only those high-quality varieties which sell at a premium.

FLAXSEED

World supplies of flaxseed for the 1934-35 season will probably exceed the small supplies of 1933-34 by about 10 percent and may be approximately equal to the average of the 5 preceding years. World demand during the 1934-35 season, as indicated by building activity, may be expected to be better than in any of the last 3 years. Compared with 1933-34, world supply is larger, but this is approximately offset by the higher level of building activity; therefore, the seasonal average price of flaxseed in domestic markets during 1934-35 is not expected to be greatly different from 1933-34 when No. 1 flaxseed at Minneapolis was \$1.91 per bushel.

WORLD SUPPLIES

Another season of short domestic flaxseed supplies is in prospect. The October 1 estimate of the United States flaxseed crop was 5,228,000 bushels, compared with 6,806,000 bushels in 1933, and 18,664,000 bushels as the 5-year (1927-31) average. The seeded acreage of 1934 of 1,628,000 acres was under that of 1933, when 1,742,000 acres were planted, but drought and excessive temperatures in July and early August, followed by frosts in the latter month, damaged the crop so severely that it did not respond to the favorable September weather. The October 1 condition suggested a yield of 4.6 bushels per acre, the lowest on record, and compares with the 10-year average of 7.3 bushels. A feature of the present domestic situation was the seeding of 12,000 acres in California, which produced 240,000 bushels, making that State the fourth largest flax producer this year. The 1934 North Dakota and South Dakota crops were only 11 and 2 percent of average (1927-31), respectively, Montana 7 percent, and Minnesota 56 percent; in the minor producing States of Wisconsin, Iowa, Missouri, Nebraska, Kansas, and Wyoming, the crop was about three-fourths of average.

Further increases in acreage and production in the minor producing States are in prospect. On account of the shortage of irrigation water in the Imperial Valley, the 1935 acreage may not be so large as intended earlier this fall, but will be about equal to or slightly larger than the 1934 acreage. Unless the Agricultural Adjustment Administration develops a program to increase the flaxseed acreage, the prospective seeded acreage in 1935 may not be greatly different from the seeded acreage of 1934 (1,628,000 acres). Weather conditions at planting time will be important factors determining whether there will be an increase or decrease from 1934. Average yields on the 1934 acreage would produce a crop materially below prospective 1935-36 requirements. Prospects indicate that the United States will remain as usual on an import basis in 1934-35 and in 1935-36. The extent of imports during the last half of the 1934-35 season will be influenced by the acreage seeded, the condition of the 1935 crop, and changes in demand for linseed oil both in the United States and in Europe.

The 1934 flaxseed acreage in Canada was further reduced, being only 226,000 acres, but on account of fairly good yields the crop has been placed at 1,096,000 bushels, compared with only 632,000 bushels in 1933 and 2,719,000 bushels in 1932. New-crop Argentine seed will not become available until January 1935. Remaining Argentine supplies from the 1933-34 crop on October 1 may be placed at about 6,200,000 bushels compared with 10,669,000 bushels a year earlier. The acreage seeded in the summer of 1934 was 7,215,000, a gain of 5.3 percent over that of the previous year. Trade advices suggest that at least average yields may be expected. Losses from frost or grasshopper damage are not expected to be serious. Average yields on the above acreage would give a crop of 70,566,000 bushels compared with the actual out-turn of 56,690,000 bushels in 1933-34, and 74,036,000 bushels—the 5-year (1926-27 to 1930-31) average. The 1934-35 world acreage seeded to flaxseed in 17 countries, which in the previous season accounted for 92 percent of the total world acreage, is 17,536,000, or 98 percent of the 1933-34 acreage. Production statistics are not so readily available as are acreage data, but enough material is available to indicate a larger world crop than the 120,800,000 bushels of 1933-34.

WORLD DEMAND

World demand for flaxseed, as indicated by building activity, may be expected to be better than that in any of the last 3 years when it was unusually low. Building activity has shown more improvement in Europe in the last 3 years than in the United States.

Domestic demand for flaxseed and flaxseed products during the remainder of the 1934-35 season will be slightly improved over that of 1933-34 when it was greatly below the predepression level. Total building activity (based upon square-feet in contracts awarded), a measure of demand for linseed oil, has shown but little improvement since the low point reached in the spring of 1933. Government financed building under the Public Works program has about reached a peak. Efforts of the Federal Housing Administration may increase the utilization of linseed oil from present levels since the funds used for the purchase of paints in refinishing, interior decorating, and remodeling will be a large proportion of the total money used. Building costs as compared with monetary returns in the form of rents for buildings are unfavorable to an early expansion of new construction in this country.

Taking European imports of flaxseed as being indicative of European consumption, average consumption in Europe in the 5 years preceding 1929 was 59,000,000 bushels, compared with 43,000,000 bushels crushed and used for seed in the United States. In the 4 years since 1929 the European imports averaged 66,000,000 bushels, as against 26,000,000 bushels used in the United States. Residential building in the United Kingdom increased 80 percent in the first 7 months of 1934 over the low point reached in 1931. German activity has more than doubled from the 1932 low. Italy has shown an upward trend in building since 1932, with continued gains in the first half of 1934. France is an exception, having shown a downward trend since 1930 and no upturn in the first 7 months of this year. Giving each of the above countries, and also the United States, a weight proportional to its population, the weighted average index of building activity for the five countries reach a low of 51 percent of the base period (1928=100) in 1932. The weighted average in 1933 was 57.5 percent and in the first half of 1934 was 72.5 percent. Based upon reports from Europe and the above comments on the domestic situation, average building activity for 1934-35 may not be greatly different from that for the first half of 1934.

Feed crops in the United States are so short as to place unusual importance upon the use of high-protein feeds, including linseed meal. Europe is also short of feed. Linseed meal available for domestic use will remain relatively high priced compared with other feedstuffs because of the unusually short supplies of this feed, although some linseed meal, normally shipped by eastern crushers to foreign countries in order to secure a drawback, may be kept in the United States. Farm income during 1934-35, which may be considered indicative of the level of demand for straight and commercial feeds, is expected to be somewhat greater than during 1933-34.

Although the above analysis leaves little to be attributed to the competition afforded domestic linseed oil by substitute drying oils, some consideration should be given to the marked increase in imports of perilla oil. Imports in 1928 totaled only 2,000,000 pounds, but in 1933 aggregated nearly 23,000,000 pounds. During the first 8 months of 1934, imports of perilla oil totaled about 24,000,000 pounds. Since this oil has noticeably stronger drying power than commercial linseed oil, it has become the practice to mix perilla oil with other oils, including Russian sunflower-seed oil and domestic soybean oil, and use the mixture instead of linseed oil. Other oils are also extensively used as substitutes for linseed oil, including imported and domestic tung oil, soybean oil, hempseed oil, and menhaden oil. The price of linseed oil should remain relatively low, compared with the price of substitute oils, in order to maintain the present economic position of linseed oil in the field of drying oils.

February 1933 saw the depression low for domestic flaxseed prices, with No. 1 flaxseed at Minneapolis averaging \$1.10 per bushel for that month. The October 1934 average was \$1.90. The value of linseed meal per bushel has increased relatively more than the value of linseed oil per bushel. The margin taken by crushers for costs of operations and profits has been lower than in the preceding year. Reduced operating margins of crushers have been passed on to consumers in lower prices for linseed products or to the producers in higher prices for flaxseed than would otherwise have prevailed. Prices of flaxseed in world markets weakened sharply in the latter part of September because of favorable reports on the growing condition of the Argentine and Indian crops and an upward revision in the estimates of remaining supplies of old-crop seed in Argentina.

UNITED STATES ACREAGE IN 1935

The United States flax acreage seeded in 1935 is not likely to exceed an acreage which at average yields would produce more flaxseed than the normal proportion between domestically produced flaxseed and normal crushings. Prior to 1930, annual fluctuations in the flaxseed acreage in the principal producing States—Minnesota, North Dakota, South Dakota, and Montana—were largely a response to relative per-acre returns of spring wheat and flaxseed the preceding year and prospective returns for the current year.

The flax acreage seeded has declined during recent years in spite of favorable price relationships. Unfavorable weather at seeding time has been an important factor. If the weather at planting time is favorable, the flaxseed acreage may be increased somewhat over that of last year, but if not favorable the acreage may be slightly less. Land in summer fallow and pastures ruined by the drought provide sufficient acreage for an increase. A shortage of seed flax is not likely to develop in the spring of 1935. Reserves have been accumu-

lated by country elevators, seedsmen, crushers, and the Federal Seed Stocks Committee, the latter having purchased and set aside 417,000 bushels of "Bison" seed.

COTTON

SUMMARY

The world supply of all cotton for the 1934-35 season will probably be 5 to 10 percent smaller than the record supply of 1933-34, but considerably larger than for any year prior to 1931-32, according to information available in late October. The indicated world supply of American cotton in 1934-35 is about 18 percent less than in 1933-34 and about equal to the average for the 10-year period ended 1932-33, while the expected supply of foreign-grown cotton in 1934-35 is 5 to 10 percent larger than the unusually large supply of 1933-34 and is in the neighborhood of 25 percent larger than the average for the 10-year period ended 1932-33.

World mill consumption of all cotton in 1933-34 was about 3 percent larger than in 1932-33 and was the largest since 1929-30. Total consumption of American cotton declined about 4 percent, whereas consumption of foreign-grown cotton increased 13 percent. Most of the decline in the consumption of American cotton occurred in the United States, where there was a decline of 7 percent from the previous season. Consumption of American cotton in foreign countries declined only 182,000 bales or 2 percent.

Domestic mill consumption during the first 2 months of the 1934-35 season was exceptionally low, partly as a result of the textile strike. Although sales of domestic manufacturers apparently exceeded somewhat the greatly restricted output during this period, stocks continued large. The rather large stocks of cotton goods, the low level of sales and unfilled orders, the higher retail prices of cotton goods, and the small consumption during the first part of the season indicate that domestic consumption in 1934-35 may be no more than and probably will be less than in 1933-34.

The reduced mill consumption in Europe during the first part of the season, along with the acute currency and exchange situation in Germany, Italy, and Poland, indicates that total consumption of all cotton in Europe during 1934-35 may be somewhat less than the relatively high consumption during the previous season. With mill activity in Japan and exports of cotton cloth from Japan during the first part of the 1934-35 season considerably higher than a year earlier, and with continued efforts to expand its cloth markets further, along with the possibility of a continuation of the high rate of mill activity in China, the total consumption of all cotton in the Orient during the season 1934-35 may equal or slightly exceed that of the previous season. With the present outlook for decreased total mill activity in foreign countries, the decrease in supplies of American cotton and the increase in supplies of foreign cotton, along with the relatively high prices of American cotton, point to a further reduction in consumption of American cotton in foreign countries in 1934-35. This probability is indicated though in no sense measured by the lag in exports which for the first 3 months of this season were in the neighborhood of 1,300,000 bales or about 53 percent of the corresponding period last year and 60 percent of the 10-year average for the period.

Cotton prices in the United States continued the upward trend throughout most of the 1933-34 season and in August 1934 were at the highest levels reached since June 1930. Domestic market prices of cotton in 1933-34 averaged 51 percent higher than in the previous season, and including the processing tax the cost of raw cotton to domestic manufacturers was about twice as high as in 1932-33, although in September it bore about the same relation to wholesale prices of unfinished cotton goods as in the 5 years ended 1929-30. Prices of American cotton in Liverpool during 1933-34 in terms of British currency were higher than a year earlier, while Liverpool prices of most foreign growths were somewhat lower than in 1932-33. Prices of American cotton increased still further relative to foreign cotton during the early part of the present season.

The probabilities of further expansion in cotton production in foreign countries during the next few years over present high levels vary materially from one country to another. In Egypt no very great increase is expected within the near future in view of its long-established system of crop rotation designed to maintain the fertility of the soil and the necessity for devoting much of the land to the production of food crops, unless more of the country's food requirements are imported. There seems to be little likelihood of much expansion in

cotton production in other parts of Africa where production and marketing costs are high and the natives (most of whom lead a very primitive life) are not particularly interested in cash incomes or in changing their methods of living. It seems probable that further expansion in cotton production in Russia in the immediate future will be slow. The emphasis now being placed on the development of consumption-goods industries and the plan for a marked increase in the output of cotton textiles suggests that Russia may increase its imports of raw cotton rather than export significant quantities to compete with American cotton in foreign markets.

The Chinese Government is making special efforts to encourage the development of its cotton production, but inadequate transportation facilities, the great need for food and feed crops, and in some sections the lack of rainfall tend to restrict expansion. The low per-acre yields of cotton and other crops, and the need for utilizing the land for the production of food and feed crops seem likely to retard expansion in cotton production in India. The availability of suitable land and the efforts of the Brazilian Government to encourage cotton production indicate that some further expansion in cotton production in Brazil over the present high level may occur during the next few years, although the production increases in this and the preceding season have been partly due to extraordinarily favorable weather. However, cotton production in northern Brazil is limited by scarcity of labor, inadequate transportation facilities, and uncertainty of adequate rainfall, and in southern Brazil by the competition of cotton and coffee for the limited labor supply.

SUPPLY

ALL COTTON

Information available in late October indicates that, although the world supply of foreign cotton in the 1934-35 cotton season will be considerably larger than in the previous season, the total supply of all cotton will be materially smaller, owing to a decline of about 4,550,000 bales in the supply of American cotton. Should the tentative estimate of total foreign production in 1934-35 prove to be approximately correct, the supply of foreign cotton for the season will be around 1,600,000 bales (of approximately 478 pounds) larger than the previous season, about 1,000,000 bales of which are accounted for by an increase in the carry-over at the beginning of this season. The total supply of all cotton seems likely to be in the neighborhood of 39,200,000 bales, compared with slightly more than 42,100,000 bales in the previous season and an average for the 10 years ended July 31, 1933, of slightly less than 35,700,000 bales.

AMERICAN COTTON

The world supply of American cotton is now down to about average, the indicated supply for the 1934-35 season being slightly less than 20,100,000 bales, compared with an average for the 10 years ended 1932-33 of about 20,400,000 bales. This supply for the current season is approximately 4,550,000 bales less than the 1933-34 supply and nearly 5,900,000 bales below the extremely large supply in each of the two seasons 1931-32 and 1932-33. The sharp decline in the world supply of American cotton since 1932-33 reflects both the reduction in production and a larger consumption in the last two seasons than in the three preceding seasons.

The indicated world supply of American cotton for the current season is made up of an estimated carry-over of 10,600,000 bales, and a crop which as of October 1 was estimated at nearly 9,450,000 bales. The estimated production is 3,600,000 bales less than the previous crop, about 5,200,000 bales less than average production in the 5-year period 1928-32, and accounts for the greater part of the decline in the current season's supply. This year's domestic crop, as estimated in October, is the smallest, with the exception of 1921, since 1899. The unusually small crop is the result both of the smallest indicated acreage for harvest since 1901 (due to the voluntary cotton-adjustment program and the Bankhead Act), and of extremely low yields in the western part of the Cotton Belt resulting from the drought.

The indicated area for harvest in 1934 of 27,241,000 acres is 9 percent less than the acreage harvested in 1933, 13,313,000 acres or 33 percent less than the average for the 5-year period 1928-32 and the smallest since 1901. Without the cotton-adjustment program or the Bankhead Act in 1934, the cotton acreage

in this year would probably have equaled or exceeded the 40,852,000 acres planted in 1933, since cotton prices in the latter part of 1933 and early 1934 were materially higher both actually and relative to competing crops and to costs than in earlier months, largely owing to the depreciation in the foreign exchange value of the dollar and the 1933 adjustment program.

Prospects as to the supply of American cotton in the 1935-36 season depend to a considerable extent upon the plans and accomplishments under the Agricultural Adjustment Administration in the control of the acreage planted in the spring of 1935. As yet no announcement has been made of the acreage to which it is planned to adjust plantings. There will be an increase in the acreage planted in 1935 over that of 1934, as the adjustment contracts which cover both years provide for a maximum reduction in 1935 of 25 percent from the grower's base acreage, whereas in 1934 the contract signers planted 38 percent less acreage than during the base period. Although conditions in late October indicate that world consumption of American cotton in the current season will be considerably lower than during the 1933-34 season, the carry-over on August 1, 1935, will be materially lower than a year earlier. The 1935 crop, therefore, could be substantially increased without any increase in the supply of American cotton for the 1935-36 season.

FOREIGN COTTON

Although the present (late October) estimate of total foreign cotton production in 1934-35 is only tentative, it seems probable that the new crop will be larger than the record 1933-34 crop by something like 600,000 bales (of 478 pounds). This would give a total crop in foreign countries of slightly more than 13,600,000 bales. The amount of the expected increase in the total foreign production is due largely to an estimated increase of 200,000 bales in China, 300,000 bales in India, 300,000 bales in northern Brazil, and small increases in some minor producing countries, with decreases in Egypt and Russia and elsewhere. With the carry-over of foreign cotton on August 1, 1934, something like 1,000,000 bales larger than at the beginning of last season, the indications are that the 1934-35 supply of foreign cotton will be around 1,600,000 bales larger than the record supply of the previous season and something like 3,900,000 bales, or 25 percent, larger than the average for the 10 years ended 1932-33.

The world supply of Indian cotton, the most important competitor of American cotton, for the 1934-35 season will probably be around 750,000 bales larger than in 1933-34, when the supply totaled nearly 6,700,000 bales. The indicated supply of Indian cotton for the 1934-35 season is the largest for 6 years and something like 600,000 bales, or 9 percent, larger than the average for the 10 years ended 1932-33. Although it is too early to know very definitely what the 1934-35 Indian crop will be, the consensus of opinion of the members of the Bombay cotton trade, and other information, indicate that it will be possibly 300,000 bales larger than the previous crop. The official estimate of plantings up to October 1 showed an increase over plantings to the same date last year of 3 percent. Stocks of Indian cotton at the beginning of the 1934-35 season were larger by nearly 450,000 bales, or 18 percent, than at the beginning of the previous season and were 600,000 bales larger than the 10-year average.

The indications in late October were that the world supply of Egyptian cotton for the 1934-35 season of about 2,700,000 bales will be slightly less than that of the previous season, which was the second largest on record. The carry-over at the beginning of the current season was about the same as a year earlier, and the official estimate of the 1934 crop was about 100,000 bales less than the record crop of 1933, although ginnings up to October 1 were 74 percent larger than for the corresponding period a year earlier.

Late October estimates were that the 1934-35 Chinese cotton crop would be equivalent to about 2,900,000 bales. This is 200,000 bales larger than the previous crop and 800,000 bales larger than the average production during the 10 years ended 1932-33. With stocks of Chinese cotton in consuming establishments and in ports in China at the beginning of the 1934-35 season larger than a year earlier, the indications in late October were that the supply for the season would be considerably larger than for the 1933-34 season.

The 1934 crop in Russia in late October was expected to be somewhat smaller than in the previous season, but stocks of Russian cotton held by mills at the beginning of the present season were estimated by the International Federation at nearly 200,000 bales larger than a year earlier. The total supply of Russian cotton, therefore, may not be greatly different from that of the 1933-34 season.

No estimate of the 1934 crop has yet been received but such information as is available indicates that the crop may be as small as 1,700,000 bales. This compares with the latest official estimate of 1933 of nearly 1,900,000 bales, and an average for the 10 years ended, 1932-33, of 1,100,000 bales. Since 1931, when the Russian crop was estimated at 1,800,000 bales, production in Russia has remained fairly constant.

The first estimate of the 1934-35 crop in northern Brazil placed the production in those States at about 750,000 bales. This represented an increase of about 60 percent over that of 1933-34, and nearly 90 percent over the average for the 5 years ended 1932-33. No estimate has been received of the acreage in cotton in the northern States in 1934-35, but there must have been a considerable increase, as it does not seem probable that the marked increase in production was due entirely to increased yields per acre since yields per acre were fairly large the previous season. The 1934-35 Brazilian crop produced in the southern States of Brazil, where cotton is planted in September, October, and November, will not be harvested until the latter part of the 1934-35 cotton season. There is little information available, therefore, as to the probable crop in these States, although some increases in acreage over the record acreage of last season is expected. Yields per acre in these States were unusually large in 1933-34.

CONSUMPTION

WORLD

The total world mill consumption of cotton of all growths during the cotton season ended July 31, 1934, amounted to 25,094,000 running bales, according to data released by the International Federation of Master Cotton Spinners' and Manufacturers' Associations. This represented an increase of 741,000 bales, or 3 percent, over the 24,353,000 bales reported for the 1932-33 season, and was the largest since 1929-30, when 25,201,000 bales were consumed. The increase of 1,373,000 bales (13 percent) in total foreign-grown cotton more than counterbalanced the decline of 632,000 bales in the consumption of American cotton. Consumption of sundry cottons (all foreign growths other than Indian and Egyptian) increased 649,000 bales, Indian 550,000 bales, and Egyptian 174,000 bales.

Most of the decline that occurred in the consumption of American cotton last year as compared with 1932-33 is accounted for by a decline of 450,000 bales, or 7 percent, in the United States. Consumption of American cotton outside the United States declined 182,000 bales, or 2 percent. A decrease of about 331,000 bales in China and smaller declines in India, Italy, and France were only partly offset by increases in Germany, United Kingdom, Russia, and Japan. Practically all the increase that occurred in the consumption of foreign cotton took place outside the United States, largely as a result of substantial increases in the supplies of foreign cotton, a decrease in the world supply of American cotton, and increased mill activity in most foreign countries. The marked increase in the domestic prices of cotton goods due to much higher cotton prices and increases in other costs of manufacturing goods tended to restrict domestic cotton consumption in 1933-34, while foreign consumers had to pay only slightly more for cotton and cotton goods in 1933-34 than in the previous season.

Total world consumption of American cotton in the 1933-34 season was reported at 13,539,000 bales. Although this was 632,000 bales less than that of 1932-33, it was the largest with the exception of that season since 1928-29, and was slightly larger than the average for the 10 years, 1923-24 to 1932-33. The prospective increase in the 1934-35 supply of foreign cotton and the much smaller supply of American cotton, along with the relatively higher prices of American, point to further decreases in the proportion of American to foreign cotton consumed during the 1934-35 season. This, together with present prospects for little if any increase in the total world consumption of all cotton during the current season, indicates a further reduction in the world consumption of American cotton in 1934-35.

The world mill consumption of Indian cotton during the 12 months ended July 31, 1934, was reported at 4,770,000 running bales of approximately 400 pounds each. This represented an increase of 550,000 bales over that of the previous season, but it was with that exception less than in any season since 1927-28. The average world consumption of Indian cotton during the last 10 years was 5,236,000 bales. The increase in the world consumption of Indian

in 1933-34 occurred despite the fact that consumption in India declined about 2 percent. The increase in the consumption in other countries was equivalent to about 30 percent. A substantial part of the increase in consumption of Indian cotton occurred in Japan. Total mill consumption in Japan increased about 350,000 bales and the proportion of Indian to the total increased, while the proportion of American declined. There was also an increase in consumption of Indian cotton in Europe owing both to the higher level of mill activity and to an increase in the proportion of Indian to the total. The indicated larger supply of Indian cotton for the current season and a smaller supply of American point to a further increase in the ratio of Indian cotton to the total mill consumption this season.

The world consumption of Egyptian cotton in 1933-34 increased about 19 percent over that of 1932-33 and was larger than in any other year. The peak consumption of Egyptian cotton reached in 1933-34 is accounted for by an increased demand for longer staple cotton, and the marked increase in Egyptian cotton production due in part to the modification of the acreage-restriction law. In some of the earlier years of record supplies, consumption of Egyptian cotton was curtailed by the Egyptian Government's policy of holding large quantities of cotton off the market in an attempt to strengthen prices, whereas in the last 2 or 3 years the Egyptian Government has been disposing of this cotton on rather favorable terms, and allowing current crops to move freely into consumption.

During the 1933-34 season, world mill consumption of sundry cottons amounted to 5,677,000 running bales, which was 649,000 bales or approximately 13 percent larger than for the previous season and was the largest on record. The largest mill consumption of sundries previously reported by the federation was in 1929-30 when it amounted to 5,162,000 bales. The increased consumption of sundry cottons in 1933-34 is largely accounted for by increased consumption of Russian, Chinese, Brazilian, and Mexican cotton within these countries, along with some increases of sundries in other European countries, in Japan, and in India. With an indicated increase in the 1934-35 supplies of sundry cottons, particularly Chinese and Brazilian, and the smaller supply and relatively higher prices of American, it is reasonable to expect that the ratio of the consumption of sundries to the consumption of American will increase in 1934-35.

The unfavorable situation for the consumption of American cotton in foreign countries accounts in part for the unusually low exports of American cotton during the first quarter of 1934-35. Exports of American cotton unofficially reported for the first 3 months of the 1934-35 season at about 1,300,000 bales were less by about 1,150,000 bales, or, say, 47 percent, than for the corresponding period a year earlier, and about 900,000 bales, or about 40 percent, less than the average for the 10-year period ended 1932-33. Total exports during the 1933-34 season amounted to 7,534,000 bales, or 10 percent less than for the previous season, and were slightly less than the average for the 10-year period ended 1932-33.

Exports so far this season have been retarded by a combination of unfavorable circumstances. With the marked increase in their supplies, foreign cottons are generally available at prices which, with the shortened supply and restrained marketings in this country, are relatively cheap as compared with prices of American cotton. In Germany, and to a lesser extent in certain other European countries, acute shortages of foreign exchange have limited purchases. Moreover, futures-spot price relationships have discouraged the accumulation of stocks of American cotton abroad to the extent usually expected in the months of heavy crop movement and tended to put foreign importing on a hand-to-mouth basis. That consumption of American cotton in other countries has proceeded, however, at a more nearly normal rate than exports is indicated by the fact that the season's takings of American cotton by mills abroad up to the last week of October were but 37 percent below the total at the same time last year. There is also some reason to believe that mills have tended to use up their stocks of American cotton in the fall months more rapidly than they have replenished them, although definite figures are not yet available.

UNITED STATES

After increasing sharply during the previous season, mill consumption of cotton in the United States declined about 7 percent during 1933-34. Total

mill consumption in that year amounted to 5,670,000 running bales, as compared with 6,110,000 bales during 1932-33 and 4,844,000 in 1931-32. Consumption during 1932-33 was about equal to the average annual consumption during the 10-year period ended with that year and was larger than for any other year since 1923-29.

The unusually large production of cotton goods during the 3 months prior to the beginning of the 1933-34 season was about equal to sales, so that there was no accumulation of excessive stocks of cloth in cotton mills during this period. Cloth production continued at a comparatively high rate during the first 4 months of the 1933-34 season, but production exceeded sales, and the total stocks of cloth in cotton mills in December were nearly double those at the beginning of the season. As a consequence of this accumulation of stocks mill activity was curtailed during December in accordance with an order of the Cotton Textile Code Authority, and mill consumption that month dropped to only 350,000 bales. Mill consumption rebounded to high levels from January through May, but, except during January and part of February, production continued to exceed sales resulting in a further accumulation of stocks, and mill activity during the last 2 months of the 1933-34 season was again curtailed.

Domestic mill consumption in September 1934 was unusually low, largely as a result of the textile strike, and during the first 2 months of the 1934-35 season averaged only about 350,000 bales, as compared with 544,000 bales for the corresponding months the year before and over 448,000 bales 2 years before, and was the lowest for the period on record. Although cloth stocks were less burdensome after the strike than before and mill activity during October was only a little less than for the corresponding month a year ago, sales of unfinished cotton goods continued rather small. During the first 3 months of the current season manufacturers' sales of cotton goods were somewhat above the restricted output, but stocks continued very large. The dollar volume of retail sales of cotton clothing and household goods was maintained at a level above that for a year ago during the early months of the current season, but retail prices have advanced substantially and have probably increased the tendency to substitute products made from other fibers for those made of cotton. Sales of cotton fabrics to industrial users have been retarded by the recession in industrial activity which has continued into the fall months, and by an accumulation of stocks of certain finished goods such as automobile tires and artificial leather which contain considerable quantities of cotton. Thus the indications are that the domestic consumption of cotton in the 1934-35 season will probably be no more and possibly somewhat less than in the previous season. Any material improvement in business activity, however, would doubtless stimulate cotton consumption by increased consumer purchasing power and by the increased use of cotton fabrics for industrial purposes.

EUROPE

Mill activity for Europe as a whole was higher in 1933-34 than in any season since 1929-30. Total consumption of all cotton last season amounted to 9,943,000 running bales, an increase of slightly more than 1,000,000 bales over that of the previous season. The average consumption in Europe for the 10 years ended July 31, 1933, was about 9,700,000 bales. Most of the principal European countries showed some increase in mill activity in 1933-34 compared with the previous season, but the greatest increase among the more important countries occurred in Germany, where total consumption was the largest, with one exception, since the World War. Consumption of American cotton in Europe for the year ended July 31, 1934, amounted to 5,441,000 bales, which was a slight increase over the previous year and the largest since 1929-30. Europe's consumption of Indian cotton was larger than in either of the two previous seasons, and the consumption of Egyptian was the largest in history. Consumption of sundry cottons in Europe was larger than in any other year for which data are available, with the exception of 1929-30.

Total consumption in Great Britain last season amounted to 2,470,000 bales. This represented an increase of 222,000 bales over the previous season and was slightly larger than in any other season since 1923-29. This increase reflects the improvement in general demand conditions within Great Britain as exports of cotton goods from Great Britain, which are roughly equal to about one-half of its output, were less than during either of the three previous seasons. Con-

sumption of American cotton in Great Britain was reported at 1,461,000 bales. This was 61,000 bales larger than a year earlier and about equal to that of 1929-30. Consumption of Indian cotton increased from 126,000 bales in 1932-33 to 234,000 bales last season. Egyptian increased 65,000 bales and totaled 366,000 bales. Consumption of all other types of cotton totaled 409,000 bales, which was slightly lower than a year earlier and the lowest since 1928-29.

Consumption on the Continent of Europe during the 1933-34 season again increased, and was also the highest since 1929-30. Germany, the most important consumer of cotton in the Continent, consumed a total of 1,524,000 bales. This compares with 1,212,000 bales the previous season, and was only 61,000 bales less than in 1927-28, when Germany's consumption reached its post-war peak. Consumption of American cotton in Germany in 1933-34 amounted to 1,056,000 bales, an increase of 133,000 bales over 1932-33 and was the largest, with the exception of 1926-27 and 1927-28, since the World War. In France and Italy total cotton consumption showed a slight increase during 1933-34, but in both countries there was a small decline in the consumption of American cotton. Consumption of Indian, Egyptian, and sundry cottons all showed increases in France and consumption of Indian and Egyptian increased in Italy.

Total consumption of cotton in Russia increased in both 1932-33 and 1933-34 after reaching a comparatively low level in 1931-32, and the consumption of sundry cottons (mainly Russian) was higher than in any other year. The estimated consumption of all cotton in Russia in 1933-34 was 1,885,000 bales, of which 1,792,000 bales (reported as sundries) were mainly of Russian growth, and 60,000 bales of American. During the period 1922-23 to 1929-30, Russia consumed on the average slightly more than 300,000 bales of American cotton, but since that time has used comparatively little. This is accounted for by the fact that in the last 4 years Russia's production of raw cotton has been two and one-half times as large as the average from 1922 to 1929.

With enforced restrictions on mill activity in Germany and curtailment of operations now in effect in Italy, parts of France, and other European countries, and with prices of cotton goods high, relative to prices of other textiles, it seems probable that cotton consumption in Europe during the 1934-35 season will be below that of last season. Monthly cotton consumption in Germany is now restricted, by a decree, to a level about 25 to 30 percent below the average for the 1933-34 season. This restriction is the result of Germany's inability to obtain foreign exchange with which to buy raw cotton. A continuation of this rate of curtailment throughout the season would result in a total cotton consumption in Germany of about 500,000 bales smaller than last season. Germany is undertaking to negotiate exchange agreements with other countries for raw cotton and is encouraging the use of artificial fibers which may reduce the consumption of American cotton. Italy and Poland are also having considerable difficulty in obtaining foreign exchange and are also contemplating trade agreements with cotton-producing countries and in Italy the substitution of artificial fibers for cotton is also being encouraged. These factors, plus the relatively high prices of American cotton as compared with other cottons, point to a considerable decline in consumption of American cotton in Europe during 1934-35.

ORIENT

Total consumption in Japan amounted to 3,252,000 bales during 1933-34, or an increase of 352,000 bales over the previous season, and was larger than in any other year. Consumption of American cotton, however, remained practically the same, the gain in Indian accounting for most of the total increase, although consumption of sundry growths more than doubled, increasing from 79,000 to 189,000 bales. The high level of consumption in Japan in 1933-34, as in the season before, was accounted for by increased exports of cotton textiles. Total exports of cotton cloth from Japan during the 12 months ended July 31, 1934, amounted to almost 2,400,000,000 square yards, compared with 2,200,000,000 square yards the year before, and was the largest on record. Japan's high level of exports in 1933-34, as well as the year before, followed the marked depreciation of the Japanese currency in the latter part of 1931, which was an important factor making it possible for Japanese goods to undersell similar products in most of the import markets of the world. In addition, special efforts were made, both by the Government and by exporters, to expand and develop markets for Japanese goods. Japan's marked expansion in exports of cotton goods has been to a considerable degree at the expense of Great

Britain. During the 1933-34 season, Great Britain exported less than 2,000,000 square yards of cloth, whereas during the middle 1920's its average exports per season were more than 4,000,000,000 square yards.

Mill activity and cloth exports were at very high levels during the first part of the present season, and Japanese exporters, with the aid of the Government, were continuing their efforts to expand their cloth markets. Information in late October indicates that Japan may be able to continue to export large quantities of cotton goods, and it is possible that total mill consumption in Japan for the 1934-35 season may again show some increase. Japanese spinners are now using relatively more foreign-grown cotton, particularly Indian, in place of American, and as a result it is expected that consumption of American cotton in Japan will possibly be about the same as or somewhat less than in 1933-34.

Cotton textile-mill activity in China during last season declined somewhat from the high level reached in 1932-33, but with that exception was higher than in any other season. Total mill consumption in 1933-34 amounted to 2,383,000 bales (reported as of 500 pounds) compared with 2,601,000 bales the previous season, and an average for the 10 years ended 1932-33 of slightly more than 2,000,000 bales. Despite the decline in total consumption, the consumption of sundry cottons, largely Chinese, increased 116,000 bales, the decline in the total being due to a drop of 331,000 bales in the consumption of American cotton. Consumption of American cotton, which amounted to 417,000 bales, was larger, however, than in any season prior to 1931-32. With the new Chinese crop expected to be still larger than that of 1933-34, it seems reasonable to expect that consumption of American cotton in China during the present season will again decline despite the fact that reports indicate that total mill consumption may be equal to that of 1933-34.

Mill activity in India during the last season was slightly less than in either of the two previous seasons, but was equal to or larger than in any other season. The total consumption in 1933-34 amounted to 2,514,000 bales, which was 121,000 bales less than in the previous season and 186,000 bales less than the peak consumption of 1931-32. The greatest decline occurred in the consumption of American, which dropped from 135,000 to 40,000 bales. Consumption of Indian declined slightly despite the larger supplies of this cotton, and consumption of Egyptian and sundry growths was about the same as in 1932-33.

PRICES

Throughout most of the 1933-34 season cotton prices in domestic markets showed a rather constant upward trend. The lowest daily average of Midling $\frac{7}{8}$ -inch cotton in the 10 designated markets during the season was 8.32 cents, which occurred in August, the first month of the season, and the highest price of 13.05 cents occurred in July, the last month of the season. The average for the entire season was 10.81 cents, which was 3.66 cents, or 51 percent higher than the average in these markets during 1932-33, and almost twice as high as the average for 1931-32 of 5.89 cents. The weighted average farm price of cotton in 1933-34 amounted to 9.7 cents, compared with 6.5 cents the season before, 5.7 cents in 1931-32, and was the highest since 1929-30. It is estimated that farmers who cooperated in the 1933 adjustment program produced about 8,386,000 bales. In return for their cooperation they received rental and benefit payments and estimated profits on options totaling about \$164,600,000, or the equivalent of about 3.9 cents per pound for the cotton they produced. This, plus the weighted average farm price of 9.7 cents, gave the cooperating producers the equivalent of about 13.6 cents per pound for their cotton during the 1933-34 season. The total farm value of the 1933 crops, plus the payments (including estimated profits on options) received for cooperating in the adjustment program and the estimated income from cottonseed, was nearly \$350,000,000, compared with the estimated total farm income from cotton and cottonseed in 1932-33 of about \$464,000,000.

The principal factors responsible for the advancing prices throughout the 1933-34 season were the declining supplies of American cotton and the depreciation in the foreign-exchange value of the dollar. The effects of these factors were sufficient to cause cotton prices to advance rather steadily despite larger supplies of foreign cotton, with a shifting from American to other growths in foreign consuming countries and a decline in domestic consumption.

From the peak reached the first few days of the current season to the end of October domestic cotton prices declined about $1\frac{1}{4}$ cents per pound. But

during this period Middling $\frac{7}{8}$ -inch cotton in the 10 designated spot markets averaged about 12 $\frac{3}{4}$ cents per pound, compared with an average of 10.81 cents for the 1933-34 season and 7.15 cents the season before, and was the highest since the spring of 1930. The average United States farm price during August, September, and October was about 12.9 cents. It is estimated that the total payments to producers for cooperating in the 1934 adjustment program will amount to about \$116,000,000. This is equivalent to about 2.9 cents per pound on the estimated production of the cooperating farmers, and this, plus the average price received during the first 3 months of the current season, is equivalent to 15.8 cents per pound. On the basis of prices received during the first 3 months of the current season for cotton and cottonseed and the October estimate of production it is estimated that the farm value of the 1934-35 domestic cotton crop plus payments for cooperating in the adjustment program is somewhat less than in 1933-34, but the largest with that exception since 1929-30.

The average domestic price of Middling $\frac{7}{8}$ -inch cotton in 1933-34 was about 51 percent higher than in the previous season and 84 percent higher than in 1931-32. Including the processing tax the cost of cotton to domestic mills was about twice as high last season as the season before and 150 percent higher than in 1931-32, but in September the cost of cotton represented about the same proportion of the wholesale prices of unfinished goods as in the 5 years ended 1929-30. The average price of American Middling in Liverpool in terms of British currency in 1933-34 was only 7 percent higher than the previous season and 25 percent higher than two seasons earlier. The increase in 1933-34 as compared with 1932-33 in the price of American cotton in most other countries was also much less than that which occurred in the United States, since a substantial part of the increase in domestic prices was due to the decline in the foreign-exchange value of the dollar. Prices of foreign cotton in most foreign countries did not advance as much over the previous two seasons as did American. In Liverpool three of the principal types of Indian cotton in 1933-34 averaged respectively 9 percent lower and 2 percent higher than in the previous season and the season before, while Egyptian Sakellaridis averaged 4 and 19 percent higher, respectively, and Egyptian Uppers averaged 5 percent lower and 17 percent higher. In China, native Chinese cotton was 6 percent lower than in the previous season. The fact that foreign consumers had to pay considerably less for cotton and cotton goods relative to the previous season than did consumers in this country accounts in part for the increase in foreign cotton consumption as contrasted to the decrease in this country.

During the 1933-34 season the price of three types of Indian cotton at Liverpool averaged 74 percent of the price of American Middling and Low Middling. This compares with 87 and 89 percent in 1932-33 and 1931-32 and a 10-year average ended 1932-33 of 81 percent. During the first 2 months of the 1934-35 season the three types of Indian average 67 percent of the price of the two grades of American which was the lowest since the summer of 1930 and much lower than the 10-year average. The prices of American relative to Egyptian, Chinese, and other foreign growths were also much more favorable to the use of foreign growths than during other recent years.

To a large extent the relatively lower prices of foreign cotton as compared with American are due to larger supplies of foreign cotton and smaller supplies of American. However, another factor also contributing to the relatively high prices of American cotton is the strong holding movement resulting, in part, from the Commodity Credit Corporation's 12-cent loan.

STAPLE SITUATION

Premiums in cents per pound for staples longer than seven-eighths inch cotton, after reaching a low point in 1932, widened as prices advanced during the last part of 1932-33 and during 1933-34. Since August 1, 1934, premiums for staples fifteen-sixteenths to one and one-sixteenth inches, inclusive, have widened somewhat, whereas premiums for staples one and one-eighth inches and longer have narrowed. Discounts for staples thirteen-sixteenths inch, after reaching a narrow point in 1932-33, widened as prices advanced, and in September 1934 were wider than at any other time since 1931. When expressed as percentages of the middling seven-eighths inch, price premiums for the longer staples and discounts for the shorter staples narrowed during the season 1933-34, and in August and September 1934 were slightly narrower, for the most part, than during the corresponding periods in 1932 and in 1933.

The indicated domestic supply of American cotton with staples seven-eighths inch and shorter for the season 1934-35 is approximately 1,000,000 bales less than a year earlier, about 2,600,000 bales less than in 1932-33, nearly 4,000,000 bales less than in 1931-32, and considerably less than for any other season since records became available in 1928-29. The influence of this decrease in supply of these shorter staples in the United States on prices is counterbalanced to some extent at least by an increase in the supply of Indian and Chinese cotton, most of which is seven-eighths inch and shorter in staple.

The domestic supply of the medium staples (fifteen-sixteenths inch to one and three thirty-seconds inches, inclusive) in 1934-35 is apparently about 2,800,000 bales less than for either of the two preceding seasons. This decrease was due in part to the smaller total 1934 crop and in part to the smaller proportion of the medium staples in the 1934 crop, resulting to some extent from the drought.

The domestic supply of cotton with staples one and one-eighth inches and longer, for the season 1934-35, is apparently slightly larger than that for the 1933-34 season and considerably larger than for any other season since records became available in 1928-29. This increase in supply of the longer staple American cotton is supplemented by an increase in supply of these lengths produced in foreign countries, due largely to an increase in the supply of Brazilian cotton, a considerable proportion of which is of staples one and one-eighth inches and longer.

POTENTIAL COTTON PRODUCTION IN FOREIGN COUNTRIES

The question of potential cotton production in foreign countries is of very great importance to American cotton growers, particularly in view of the present cotton-adjustment program in the United States. Cotton production in foreign countries in 1933-34 was about 25 percent above the recent low point reached in 1931-32, about 6 percent above the previous high point reached in 1928-29, and about 18 percent higher than the average for the 10 years ended 1932-33. Cotton acreage in foreign countries in 1933-34 was about 9 percent higher than the recent low point reached in 1932-33, about 5 percent higher than the previous high point reached in 1925-26, and 10 percent greater than the 10-year average. In considering acreage and production in the United States and abroad, it should be borne in mind that the long-time trend has been upward in foreign countries as well as in the United States, and that expansion in the United States could again take place probably with as great rapidity as did the reductions of recent years. The new peak in acreage and in production reached in 1933-34 is largely accounted for by the fact that Russia's cotton acreage and production in recent years have been at much higher levels than in previous years and by the fact that acreage and/or production were about equal to or higher than that of any previous year in China, Brazil, Egypt, and a few less important cotton-producing countries, and by the return to more normal production in some other countries, notably India. The probabilities of further expansion can best be indicated by an examination of conditions in specific countries.

INDIA

Although cotton production in India in 1933-34 was about 23 percent higher than the small crop of 1931-32, production was still about 20 percent and acreage about 16 percent below the peak year of 1925-26. From the standpoint of land suitable for cotton production, it would appear that India has ample room for expanding its cotton-growing industry. But this expansion is limited by the requirements of land for the production of food crops to support the dense population, particularly in view of the very low yields per acre and the fact that in some sections of India transportation facilities are inadequate. Although there are possibilities of extending the area in crops and/or of increasing yields per acre by means of irrigation, any material expansion in cotton production in India in the immediate future would probably replace large areas of land used in the production of food crops. With average yields in India of only about 80 pounds of lint cotton per acre, an expansion in area necessary to increase the total production of Indian cotton by 1,000,000 bales would reduce the area available for food and other crops by about 6,000,000 acres. Although the low per acre yields and the increasing population re-

quiring additional land for food are important factors limiting further expansion of cotton production in that country, it is believed that favorable prices for cotton relative to other crops might result in a considerable further expansion in cotton production in India.

CHINA

Cotton acreage and production in China have continued to expand during recent years and in 1933-34 were considerably greater than for any recent year and both were about 30 percent above the average for the 10-year period ended 1932-33. China, with the exception of India, is the largest foreign cotton-producing country although not a large exporter of cotton. Like India, this country has considerable areas of land fairly well suited to cotton growing, but the production of cotton is decidedly limited in many sections of China by land requirements for food crops and by inadequate transportation facilities.

The northern Provinces appear to promise the greatest possibilities for expanding cotton acreage. The Chinese Government, by an increased tariff on raw cotton, the providing of production credit, the distribution of cottonseed, and other means, is making an effort to stimulate production and improve marketing facilities in this area, but rainfall in some of the leading cotton districts of the northern Provinces is very irregular and yields fluctuate considerably from season to season. Expansion in other Chinese areas appears to be limited by transportation, rainfall, and the requirements of food and feed crops. There are several large areas in China where cotton is now grown and where the expansion of production might be expected if adequate transportation facilities were available. But until these areas are open to domestic commerce it is not probable that they will produce much cotton beyond that required for consumption in local areas. There are also possibilities of increasing yields in the areas in which cotton is now produced and of bringing into production new lands by the construction of irrigation works. Although these conditions indicate the possibilities of considerable further expansion in cotton production in China, the extent to which further expansion will probably occur within the next few years is likely to be determined to a considerable extent by the success of the cotton program of the Chinese Government and by developments within the cotton-textile industry in China. The low level of per-capita cotton consumption in China suggests the possibility of considerable increase in the consumption of cotton there if the reforms in agricultural conditions now contemplated are successful.

EGYPT

The marked expansion in cotton acreage in Egypt in 1933-34 over the restricted acreage the previous year represented a return to more normal acreage for that country. The 1933-34 acreage was about 5 percent above the average for the 10-year period ended 1932-33, but was somewhat less than that of 1925-26, 1929-30, and 1930-31. Production in 1933-34 was the highest on record owing in part to unusually high yields and was about 22 percent above the average for the 10-year period ended 1932-33.

It is thought that the Egyptian cotton acreage is not likely, within the near future, to exceed materially that of the previous maximum. The reasons are physical as well as economic. Egypt has an area of about 8,500,000 acres, of which about 5,500,000 acres are under cultivation. The population of 15,000,000 people existing on this 5,500,000 acres makes it necessary that much of the land be devoted to food crops. In addition to the requirement of land for food, there is a definite system of rotation designed to maintain soil fertility. This tends to prevent the planting of cotton more than 1 year in succession upon the same land. Any permanent increase above the past maximum acreage will necessitate the reclaiming of additional land, which is very expensive, and/or a further substitution of cotton for food crops, which, unless cotton prices advance materially either actually or relatively, is not likely to take place.

Although much expansion in the cotton acreage in Egypt during the next few years does not appear probable, there is a tendency to replace the extra long staple, lower-yielding varieties with shorter-staple, higher-yielding varieties more nearly comparable in quality with the long-staple upland cotton produced in the United States. If this shift continues, it will tend to increase the average yield per acre, the total production, and the quantity of cotton similar to the long-staple upland varieties of the United States.

AFRICA OUTSIDE OF EGYPT

The principal African cotton areas outside of Egypt are the Anglo-Egyptian Sudan, Uganda, the Belgian Congo, Nigeria, and a few other small areas. All of these countries are comparatively new in the production of cotton, and, from the standpoint of suitable land, some apparently have possibilities for considerable expansion in cotton production. But conditions in most of these countries indicate difficulties in connection with further expansion. Chief of these are the lack of transportation facilities, the scarcity of efficient labor, and diseases and insect pests. In the Anglo-Egyptian Sudan, cotton production depends to a considerable extent upon governmental policy. Little further expansion is thought possible without the expenditure of a considerable amount of money for irrigation or transportation facilities, or both. In the regions of the Sudan in which cotton is grown by rainfall the country is exceedingly dry for half the year, and the native cotton growers are compelled to move their villages from the plains to the rivers and watering places. The primitive life of the natives and their utter lack of interest in changing their methods of living throughout the whole of the African district tend to retard cotton production. In some of the areas of Africa where cotton is produced it is carried for miles on the heads of the native growers to gins, then transported for several hundred miles by river boat, by animal pack train, or by rail at high freight rates. Cotton prices are not sufficient under ordinary conditions to stimulate production in these countries, where the population is not particularly interested in cash incomes and where transportation costs are very high.

RUSSIA

Following the marked expansion from 1921-22 to 1931-32 cotton acreage and production in Russia have remained at relatively high levels, and in 1933-34 production was about 71 percent larger than the average for the 10-year period ended 1932-33 and 73 percent higher than the average for the 5 years ended 1916-17. Russia has experienced many difficulties in the last few years in its attempts at further expansion, and it seems probable that further expansion in the next few years will be slow. In 1930 and 1931 the Russian acreage increased 50 and 35 percent, respectively, yet production increased by only 24 and 16 percent, respectively. During the 3 years ended 1933-34 yields per acre averaged nearly 30 percent less than the average for the 5 years ended 1929-30. Through larger acreages and improved yields, Russia plans that its cotton production by 1937, the end of the second 5-year period, will be 70 percent larger than the approximately 1,778,000 bales produced in 1932-33.

On the other hand, the second 5-Year Plan calls for an expansion in production of cotton textiles from 2,459,000,000 meters (2,689,000,000 yards) in 1932 to 5,100,000,000 meters (5,577,000,000 yards) in 1937, or an increase of 107 percent, along with the erection of 15 new cotton-spinning mills with a total capacity of 3,000,000 spindles. From the low per-capita consumption of cotton in Russia and the increased emphasis on the development of consumption-goods industries it would appear improbable that Russia's production of raw cotton will exceed its domestic requirements, even if the Government's second 5-Year Plan, as regards cotton production, should succeed to a considerable extent. In fact, the plan for a greater expansion in its textile industry than in its raw-cotton production suggests that Russia may even increase its imports of raw cotton.

SOUTH AMERICA

Large undeveloped areas of South America appear to be suitable for cotton production. Much of the land is now in forest, however, and a heavy outlay of labor and capital will be required to place it under cultivation. Inadequate transportation facilities and the lack of sufficient labor are important factors restricting expansion of cotton production in South America.

Although considerable cotton is produced in Argentina and in Peru, Brazil is the principal cotton-producing country in South America. Cotton production in Brazil has increased rather steadily in the last few seasons. The 1933-34 crop, estimated at about 969,000 bales (of 478 pounds) is the largest crop on record and is about 76 percent larger than the average for the 10-year period ended 1932-33.

In northeastern Brazil cotton production is limited, however, to a considerable extent by the amount and distribution of rainfall. In the interior, where perennial cottons are grown, insufficient rainfall during the early planting season limits new plantings and reduces the yields. Cotton production in northeastern Brazil in 1932-33 amounted to only 226,000 bales, but the following year, with good rains, yields per acre were 73 percent larger, and the total production more than doubled that of the previous year. During the current season the most favorable growing conditions known have prevailed and the first official estimate of the 1934-35 crop is 750,000 bales.

In the southern district of Brazil, where American upland varieties are grown, the indications are that cotton acreage depends to a considerable extent on cotton prices relative to coffee prices. During several years prior to 1925-26 cotton prices in relation to coffee prices were high and cotton production in these areas increased, but from 1925-26 to 1930-31 coffee prices were relatively high and cotton production declined. With the decline in coffee prices in 1930, cotton again became relatively more profitable and production increased. The recent increases have taken place during a period of unusually low coffee prices. Coffee requires a large amount of labor and competes with cotton during the harvesting season. This condition, unless overcome by an increased labor supply, will tend to retard the expansion of one or both of these leading crops.

There was a very substantial increase in Brazil's total production in 1933-34, and a still further increase in the 1934-35 crop in the northeastern States, and in view of the large amount of available land the efforts of the Brazilian Government to encourage production and the relatively high cotton prices in Brazil in the last year or two indicate that some further expansion in its cotton production may occur during the next few years. However, increases in production in Brazil are limited by scarcity of labor, inadequate transportation facilities, and uncertainty of adequate rainfall in the northeastern States, and by the competition of cotton and coffee for the limited labor supply in the southern States.

COTTONSEED

During the 1933-34 cotton season the average United States farm price of cottonseed on the 15th of each month showed a steady advance, from \$12.11 per ton in September to \$22.30 in July. During August, September, and October 1934 cottonseed prices made an additional marked advance, and on October 15 the average United States farm price was \$35.62—the highest since June 1929. The October 15 price was nearly $2\frac{1}{2}$ times as high as the weighted average farm price of the 1933-34 season, almost $3\frac{1}{2}$ times as high as the average for 1932-33, and was 31 percent higher than the average of the seasonal averages for the 10 years ended 1932-33. The marked increase in prices for cottonseed during 1933-34 and early 1934-35 reflected the following factors: The decline and prospective decline in the supply of fats and oil in the United States which compete with cottonseed oil (the most important cottonseed product), the prospects for a marked reduction in the 1934-35 production of cottonseed and, in turn, cottonseed products, the declining supplies of feedstuffs competing with cottonseed meal or cake and hulls, an increase in consumer income, and the decline in the gold value of the dollar.

The 1934-35 production of cottonseed is now expected to be about 28 percent less than the 1933-34 production, owing in part to the cotton-adjustment program and in part to the low yields in the western portion of the Cotton Belt resulting from the drought. The 1934-35 production of cottonseed will be the smallest, with the exception of 1921-22, since 1899. In view of the comparatively high prices of cottonseed, however, it seems likely that a somewhat larger-than-average proportion of the cottonseed produced will be sold to cottonseed-oil mills for crushing.

COTTONSEED OIL

During the 10 years ended 1932-33 the value of the crude oil produced from cottonseed represented about 53 percent of the total value of all crude products of cottonseed, according to reports from the Bureau of the Census. The 10-year average price of prime summer yellow cottonseed oil at New York during the period 1923-24 to 1932-33 was 8.83 cents per pound. In September this year cottonseed oil was 7.50 cents per pound compared with 4.61 cents in September last year and was the highest since April 1930.

Cottonseed oil is used largely in the production of compounds and vegetable shortenings. Lard is the principal competitor of cottonseed oil. During the 12 months ended September 1934 domestic production of lard amounted to 1,425,000,000 pounds. This compares with production of 1,692,000,000 pounds during the preceding 12-month period, or a decline of 16 percent. Furthermore, the outlook is for a low level of lard production during the 1934-35 hog-marketing season which began in October, and for a considerably below-average production in 1935-36. The 1934-35 production of lard is expected to be the smallest for at least 20 years. The actual and prospective decline in the production of lard, along with the many other factors affecting lard prices, resulted in an advance in the price of refined lard in Chicago from \$6.25 per hundred pounds in December 1933, to \$11.25 per hundred pounds in September 1934 and it is expected that lard prices will continue high at least through 1935. This situation will continue to give strength to cottonseed-oil prices and in turn to cottonseed prices.

In addition to the decline and prospective decline in the production of lard another rather important development during recent months which has contributed to the higher prices for cottonseed oil and, in turn, cottonseed, has been the imposition of excise taxes on coconut oil, palm oil, fish oils, and some of the other oils. This has already resulted in the use of larger proportions of cottonseed oil in the manufacture of oleomargarine and salad dressings and a decline in the proportion of palm oil in the manufacture of compounds and vegetable shortenings.

At the end of June 1934, stocks of cottonseed oil in factories and warehouses in the United States, reduced to a crude basis, amounted to 841,500,000 pounds, compared with 857,100,000 pounds a year earlier, or 2 percent smaller. At the end of September, however, stocks of cottonseed oil were 29 percent less than at the end of September last year. Stocks of coconut oil in the United States at the end of September were the largest since 1931, amounting to 214,700,000 pounds, compared with 150,000,000 pounds in 1933, or an increase of 43 percent. Total stocks of six other edible oils at the end of June were considerably larger than last year or the year before. Stocks of lard at the end of September, however, which totaled 128,000,000 pounds, were about 33 percent smaller than the unusually large stocks a year earlier, but were considerably greater than the 5-year October 1 average.

COTTONSEED MEAL AND HULLS

The short supplies of feed crops have been the most important factors resulting in the marked increase in the prices of cottonseed meal and cottonseed hulls. In September and October 1934 cottonseed meal averaged almost \$34 per ton, as compared with less than \$17 in October last year and a low point of less than \$12 a ton in 1932. Cottonseed hulls averaged about \$14 per ton during September and October 1934 in the Atlanta market, as compared with \$8 in October 1933 and \$6.62 in October 1932. Owing to the corn-production-adjustment program and to the severe drought, there has been a decline in the supplies of feed grains to the lowest level for the 1934-35 feeding season since 1881. The 1934 domestic-hay crop is the lowest in the 16 years for which comparable data are available. Although there has been a sharp reduction in the number of livestock in the United States, there has been a greater relative reduction in both grain and hay, so it is expected that the prices of cottonseed cake and cottonseed hulls will be maintained during the 1934-35 feeding season.

FEED CROPS AND LIVESTOCK

Supplies of feed grains (corn, oats, barley, and grain sorghums) for the 1934-35 feeding season are the smallest since 1881. The marked reduction was due primarily to the drought, which reduced yields, although the 1934 acreage of feed grains was reduced 9 percent under that of 1933 and was 10 percent under average (1927-31). The 1934 hay crop was the smallest in the 16 years for which comparable figures are available. Moreover, the loss of new seedlings in the drought area was extensive. Liberal use of low-grade roughage may offset a large part of the shortage of hay. Prospective 1934-35 supplies of high-protein feeds from domestic processing may be 90 percent of 1933-34 and only 70 percent of average, but almost the same quantities of wheat byproduct feeds appear available in 1934-35 as in 1933-34. Larger imports of feed grains and other feedstuffs to supplement the local shortage appear probable, but not in sufficient quantity to reduce materially the shortage of feed.

Livestock has been reduced more rapidly this year than in any previous year, and by January 1, 1935, numbers are expected to be only around four-fifths of those of a year earlier. The reduction was due partly to the Government's hog-adjustment program and partly to the drought of 1934, including natural liquidation because of feed shortage and the cattle- and sheep-buying program designed to relieve the drought situation. The total number of meat animals on farms at the end of the present year will probably be the smallest in more than 35 years. United States farm income in 1934-35, a measure of farmers' ability to purchase feeds, is expected to be slightly larger than in 1933-34. Farm income will be small in the drought sections, but it will be supplemented there, as elsewhere, by benefit payments.

Farm prices of feed grains in September were the highest since October 1930, and of hay the highest since June 1926, largely as a result of greater relative reductions in feed than in livestock. October prices were slightly under those for September. The present high level of feed prices will probably be maintained through the feeding season. Prices of feed grains and hay are exceptionally high compared with prices of livestock and livestock products, and if present relationships between feed and livestock prices continue into the first half of 1935, finishing of livestock for market will be further discouraged. A somewhat higher level of prices of livestock and livestock products may be expected as the season advances, and this will tend to reduce somewhat the present relative spread between the prices of the two groups of commodities. The maladjustment of livestock numbers to probable feed-grain production will be one of the most difficult problems confronting American agriculture during the next few years.

Generally speaking, the average farmer's response to high feed-grain prices, unfavorable feeding ratios, depletion of farm feed-grain and hay reserves, and low condition of livestock is to increase materially the feed-grain acreage in the following year. In previous periods, for example, sharply reduced corn crops have been followed by increased acreage in the following season. The 1935 corn-hog program of the Agricultural Adjustment Administration recognizes the need for early feed, which can be provided by spring seedings and places no restriction upon the production of these feed crops. The program contemplates, however, the adjustment of corn acreage in order that corn supplies may not become seriously in excess of the feeding requirements for corn next season.

Competition between cash crops (wheat, cotton, tobacco, etc.) and feed crops, provides an indication of the probable future trend of feed-grain and hay acreage. In the period 1921-26, during which exports were large, returns from cash crops were relatively greater than those from feed grains and hay. The cash-crop acreage increased compared with the feed-grain and hay acreage during this period and up to 1929. From 1926 to 1931, owing in part to the decline in foreign demand for cash crops and in part to increased livestock numbers in United States, feed crops were relatively more profitable and feed-grain acreage increased, while the cash-crop acreage declined. As the result of the unusually short 1934 feed-grain and hay crops and the accompanying high values, feed-grain prices will remain relatively high in 1934-35 compared with cash-crop prices. This is a continuation of the trend begun in 1931. The present high ratio (feed prices divided by cash-crop prices) will probably be accompanied by an increase in acreage to feed grains and hay. If feed-crop yields in 1935 are equal to normal or better, on an acreage as large or slightly larger than that sown in 1934, total feed supplies for the 1935-36 feeding season will be very large in relation to the number of animals to be fed, and feed prices will be low in relation to prices of livestock and livestock products. This relationship may continue for several years, since a reexpansion in livestock population can scarcely be expected before 1936 at the earliest.

FEED SUPPLY SITUATION

The 1934 production of corn, barley, oats, and grain sorghums was estimated, October 1, at 52,800,000 tons or 46 percent of the 5-year (1927-31) average of 113,900,000 tons. The computed supplies of feed grains, including stocks on farms and in the markets for use during the season and for carry-over was 64,500,000 tons, compared with 98,500,000 tons for the 1933-34 season and 105,700,000 tons, the 1927-31 average. Allowing for a minimum carry-over of feed grains at the end of the season, for increased imports, for somewhat larger feeding of wheat, and for the apparent supply of other grains, concentrates,

and mill feeds, the total quantity available for feeding livestock during the 1934-35 feeding season can hardly exceed 60,000,000 tons and may be several million tons less. Compared with this, about 87,500,000 tons were fed last year, and an average of about 96,000,000 tons were fed annually during the 9 preceding years for which comparable figures are available.

Production of tame and wild hay in 1934 was 57,728,000 tons, or 69 percent of the average of 83,618,000 tons. Allowing for a minimum carry-over of hay next spring and adding the estimated quantities of sorgo (sweet sorghum) and grain-sorghum forage and the dry-weight equivalent of corn silage, the quantity available for feeding is estimated at about 77,000,000 tons, compared with about 97,000,000 tons for the 1933-34 feeding season, and an average of about 100,000,000 tons during the preceding 9 years.

Because of the extremely short pastures, the 1934-35 supplies were reduced relatively more than usual during the summer and fall. The seriousness of the shortage of roughage is partially mitigated by the extensive salvaging of fodder, stover, straw, and other roughage.

THE DIFFERENT FEEDS

Corn.—The United States corn crop for all purposes was placed by the October 1 estimate at 1,417,000,000 bushels, or only about 56 percent of an average crop. The 1934 acreage was 92,526,000, compared with the 5-year (1927-31) average of 100,706,000 acres. The principal decrease in production was in the western part of the Corn Belt. Drought and excessive temperatures during July and August ruined the crop over an area spreading from eastern Montana to western Minnesota southward through eastern New Mexico, Texas, and western Louisiana. An approximation issued in connection with the October report placed the production of corn for grain at 1,048,000,000 bushels, compared with 2,029,000,000 bushels in 1933 and the 1927-31 average of 2,127,000,000 bushels.

Other feed grains.—Production of oats was 546,000,000 bushels compared with 1,187,000,000 bushels, the 5-year (1927-31) average. The yield per acre of 16.4 bushels was the lowest on the records which go back to 1866, and production was the smallest since 1882. Very unfavorable weather at filling time, insect damage, and some loss of acreage by abandonment were the main causes of the reduced outturn. The 1934 barley crop was 122,000,000 bushels, or 45 percent, of the average, while production of grain sorghums (for all purposes) was 52,700,000 bushels, or 56 percent of the average. The 1934 barley acreage was reduced 14 percent from that of the previous season, but the grain-sorghum acreage was cut only 2 percent.

Wheat feeding.—The 1934 wheat crop was too small to provide for extensive feeding of wheat, although in 1934-35 as much as 90,000,000 bushels may be fed. In 1933-34 about 71,000,000 bushels were fed, compared with the 1927-31 average of 97,500,000 bushels. Heavy feeding of wheat occurs only when wheat prices are equal to or lower than corn prices. Usually farmers sell their wheat for one-third to one-fourth more than corn, and on October 15 farm prices of wheat exceeded corn by 16 percent. In the Rocky Mountain and Pacific Coast States wheat prices per bushel were lower than corn prices per bushel on October 15.

Pastures.—Although October 1 pastures were the poorest on record for that date, a marked improvement had occurred during September in the Southwestern, Central, and Eastern States. Improvement in the Western States to mid-October, however, was small.

Soybeans.—A crop of 11,864,000 bushels of soybeans in the six leading States of commercial production is indicated by October 1 conditions. The production in these States was 10,084,000 bushels in 1933, and the 5-year average was 9,166,000 bushels. The July acreage report indicated an increase in plantings of almost one-third, which owing to later developments was probably considerably increased for use as soybean hay. Thus, a substantial increase in feed production from this crop is assured.

Commercial feeds.—From present indications, supplies of commercial feeds for the 1934-35 season will be smaller than in other recent years. Production of wheat feeds, which comprise over one-half the total production of commercial feeds, depends primarily upon the quantity of the flour outturn, and domestic milling requirements will be met by domestic supplies, supplemented by some wheat importations. The outturn of high-protein concentrates, however, will be materially smaller than last year or than average. Supplies of cottonseed cake and meal for consumption from October 1934 to July 1935 and for

carry-over at the end of the season amount to 1,447,000 tons, compared with the shipments of 1,682,000 tons in the same period last year. Poor prospects for flax this season suggest continued light supplies of linseed meal, although some meal made from foreign seed may remain in the United States instead of being shipped to Europe in order to obtain the drawback on the export of the meal and thus reduce the cost of imported flaxseed. Supplies of soybean meal will be fairly plentiful owing to the good crop of soybeans. Alfalfa-meal production will be restricted by the reduced alfalfa-hay crop, although production from June to September 1934 was about as large as in the same period last year. Hominy feed production will probably be equal to that of last season. Production of gluten feed and meal may be less than that turned out during 1933-34. Large quantities of brewers' and distillers' dried grains will be available during 1934-35.

EMERGENCY GOVERNMENTAL ACTION

Emergency governmental action was taken through the Agricultural Adjustment, Farm Credit, and the Emergency Relief Administrations to alleviate the extreme effects of the 1934 feed shortage. (1) In the beginning efforts were made to transfer land from surplus grain crops to pasturage. When the drought first began to be noticeable, all restrictions were removed on the use for forage and fodder of all lands on those farms covered by governmental contracts. (2) Means were developed to facilitate movement of feed to animals, and of animals to feed, through reduced freight rates. Reductions were authorized by the Interstate Commerce Commission, effective June 4, 1934. The original schedule expired September 7, but later in September was extended to December 31, 1934, on livestock and to May 1, 1935, on feed. (3) The Farm Credit Administration made loans in the drought States for the purchase of feed, seed, and the movement of livestock to pasture areas totaling approximately \$15,000,000 at the end of September. Also, more than \$35,000,000 were disbursed throughout all States from the 1934 emergency crop-production loan appropriation. (4) While the corn-loan plan was not originally designed as a drought-relief measure, it did have the effect of holding corn on farms as a reserve. Steps were taken to encourage farmers to obtain forage. To increase the incentive for salvaging feed and forage, it was agreed to pay farmers \$7 to \$9 per ton for corn stover and corn fodder on quantities within allotments remaining unsold on farms April 1, 1935.

A Federal livestock feed agency was established in Kansas City to expand current services in interpreting and disseminating information relative to feed supplies and livestock. Information as to location of feed supplies in areas where there is a feed surplus will be gathered, as well as data on needs in areas where there is a deficit of feeds. The effect of the drought on seed supplies was partly offset by governmental purchases of seed of adapted varieties.

Adjustment of livestock numbers to the feed shortage was undertaken by the above agencies. About 7,500,000 head of cattle will be purchased, many of which have been shipped out of the drought area to pasture prior to processing. The entire appropriation will be about \$103,000,000. Of about 7,000,000 head of cattle purchased up to October 31, at least 5,800,000 head had been processed or condemned. Since the shortage of hay is more serious than the shortage of feed grains, import duties have been removed on imports of hay and straw into designated drought-affected areas.

FOREIGN SITUATION

With domestic feed supplies in the United States the smallest of recent years, some feed and hay will be imported during the present feeding season. Supplies of feed grains available for importation into the United States are likely to be small, however (until next spring when new-crop Argentine corn will become available), because of larger import needs of European countries and reduced production of feed and forage in surplus areas. Even if aggregate imports should be much larger than in any recent year, they nevertheless would be very small relative to the reduction in feed supplies caused by the drought in this country.

Europe, like the United States, is short of feed. The shortage is not so acute as in many parts of the United States, and it is confined principally to oats and barley. Total numbers of livestock in Europe, outside of Russia, increased

steadily from immediately following the World War to 1932, and at this time are only slightly below the record level reached that year. Assuming no change in feed utilization per animal unit, present livestock numbers in the principal European countries suggest a need for about 15 percent more feed than in the years immediately before the war period and 12.5 percent more than in those years immediately following the World War. The 1934 European feed-grain production is smaller than that of either 1932 or 1933, so that potential feed-grain import requirements during 1934-35 are larger in those European countries that normally import feeds than during the previous season. Livestock numbers in Europe, especially hogs, may be expected to show some reduction during 1934-35, and thus the European importation of feedstuffs is not likely to increase sufficiently to offset the decrease in the 1934 European production of feed grains.

The European feed-grain shortage is primarily in barley and oats, since the corn crop is only slightly smaller than the 1933 harvest. Since only about 42,000,000 bushels of corn were available for export from Argentina at mid-October, only small quantities could be imported into the United States during the next several months. No material imports of corn from any other country can be expected. During 1933-34 total imports of corn were about 900,000 bushels. New-crop Argentine corn will not become available until April 1935. The 1934-35 Argentine corn acreage is not yet known, but because of the sharp advance in Argentine corn prices in July and August and the shift from wheat to other crops for which there has been a better market, it is very likely that the acreage for harvest in 1935 will be larger than the acreage in 1934.

Imports into the United States of foreign feed grains increased sharply from June through September 1934 over those of a year earlier. Imports of hay were restricted by the short available supplies in Canada, while reduced imports of oriental soybean meal reflect the active European demand. Larger imports of wheat mill feeds may be expected in 1934-35.

DEMAND FOR FEED

LIVESTOCK NUMBERS

Numbers of livestock on farms have been reduced more rapidly in 1934 than in any previous year. The cattle- and sheep-buying program to meet the feed shortage, the hog-adjustment program, and natural liquidation as the result of short supplies and high prices of feed were the principal causes.

Livestock numbers, in terms of feed-grain consuming units, made little change from 1928 to 1934 and were fairly large in relation to feed production over most of this period after 1929. Hay-consuming units increased steadily during this period. As of January 1, 1928, the number of feed-grain units, including chickens, was 139,581,000, and of hay and pasture units, 73,888,000. As of January 1, 1934, the feed-grain units were 137,609,000 and the hay and pasture units 80,068,000. As a result of the marked reduction in all species, except horses and mules, which decreased only slightly during 1934, the grain units on January 1, 1935, may be about 80 percent and the hay and pasture units about 90 percent of those on January 1, 1934.

Cattle numbers on January 1, 1935, are expected to be nearly 10,000,000 head smaller than a year earlier, or close to the low point of the present cattle-production cycle. The turning point in milk cows appears to have been reached and numbers may be expected to decrease for several years. An upswing in the cattle-production cycle following the precipitous decline in numbers this year is not likely to begin before 1936. Because of the short supplies and high prices of feed, particularly corn, hog production is expected to be on a greatly reduced scale until the spring of 1936, and market supplies of hogs are likely to continue unusually small until late in that year. With considerable liquidation of sheep now in progress, the number of breeding ewes in 1935 will be somewhat smaller than that of recent years, resulting in a decreased lamb production next year. An upswing in sheep numbers, therefore, is hardly likely to occur until after 1935. Horse numbers on January 1, 1935, will be smaller than a year earlier, but the rate of decrease in 1934 will probably be less than in 1933. Production of poultry this year has been much less than last, and the smallest since 1925. Scarcity of feed in many important poultry-producing States will force some further reduction in the number of hens carried through the winter, but for the country as a whole the reduction from January 1 last year will probably not exceed 10 percent.

FEEDING PROSPECTS FOR 1934-35

Combining livestock, including poultry, in proportion to their normal grain-consuming requirements, there were about 115,449,000 grain-consuming animal units on farms at the start of winter, or 81 percent of the number a year earlier. The quantity of feed grains, mill feeds, and concentrates available to carry this number of grain-consuming animals until new crops will be available is something less than 1,000 pounds per animal unit, in comparison with 1,230 pounds for 1933-34. The deficiency can be met only by restrictions in the feeding of grains, by further liquidation of animals, or by importation of feed. Similarly, combining livestock on farms in proportion to their normal hay-consuming requirements there are about 65,685,000 hay-consuming animal units on farms at the start of winter, or 91 percent of the number a year ago. The quantity of hay, sorghum forage, and silage to carry this number of hay-consuming animals is something less than 2,360 pounds per animal unit, in comparison with 2,700 pounds for 1933-34. The deficiency can be adjusted only by greater utilization of corn stover, by further liquidation of livestock, or by reductions in the quantities fed.

With feed supplies inadequate to provide anything like a normal ration for the greatly reduced numbers of livestock on farms, numerous adjustments in feeding practices are necessary. After allowance is made for the quantity of grain and mill feeds required to winter work animals in fairly serviceable condition, to carry necessary breeding and young stock through to new grass, and to maintain through the winter months perhaps 90 percent of the normal supply of market milk and 80 to 85 percent of the usual supply of fresh eggs, it is apparent that the quantity of feed remaining for fattening hogs, cattle, lambs, and poultry, and for the production of milk for butter and cheese, will be very much below the smallest quantity used for these purposes in any other year of record.

Despite the low condition of pasturage and the small feed-grain and hay crops, total shipments of stocker and feeder cattle through inspected markets into the Corn Belt States, July through September 1934, were much larger than in these months of 1933, and about 18 percent larger than the 5-year average (1929-33). To what extent these increased shipments will be reflected in enlarged feeding operations this winter is uncertain. A larger than usual proportion of the cattle shipped were stockers, rather than feeders. The number of cattle that will be grain finished in the eastern Corn Belt will probably be no larger than last year, but cattle feeding in the drought areas during the next 12 months will be on a greatly reduced scale. Reports from the Western States indicate that cattle feeding in all of these, except possibly California, will be reduced. Prospects of winter range and pasture feeds are the poorest on record and western cattle are going into the late fall and winter season in an unusually poor condition.

Increases in prices of dairy products will probably cause farmers to reduce the feed of milk cows less drastically than they reduce the feed of meat animals. In the Plains area from the Dakotas to Texas, however, the price of butterfat does not seem likely to rise enough to permit local farmers to buy hay and grain elsewhere and ship it in for milk production. In the eastern Corn Belt, close utilization of straw and fodder will partly offset the shortage of hay. For the most part, dairy cows will be fed the better classes of roughage this winter; low-grade roughage will be used more by other classes of livestock than by dairy cows. The low price of cows compared with feed prices will tend to reduce further the number of dairy heifers raised. The ratio of butterfat prices to grain prices in October 1934 was the lowest in post-war years and has become increasingly unfavorable since May 1933. The outlook for 1935-36 is for higher prices of dairy products in relation to feed prices, but for a less favorable relationship of dairy-products prices to prices of meat animals.

The reduction in hog numbers, already under way prior to the drought, was accelerated by the extreme feed shortage. The 1934 total pig crop was sharply reduced as a result of the corn-hog adjustment program, unfavorable feeding relationship between hog and corn prices, and the short 1934 feed supply. The reduction in hog numbers, however, has not been so great as the reduction in feed supplies; thus, hogs will be fed to lighter-than-average weights in 1934-35. The average weight for the season probably will be the lightest for any year since 1916 at least. The United States hog-corn price ratio, based on farm prices, reached the unusually low figure of 6.3 on August 15, or slightly under the unfavorable ratios reached in 1917 (7.4), 1920 (7.1), and 1924 (6.7). The

United States hog-corn price ratio of October 15, 1934, was 6.8 while that for Iowa was 7.2. The long-time average for the same date for the United States is 12.0 and for Iowa 13.6 bushels. With average yields in 1935, corn will become relatively cheaper than hogs, and the hog-corn price ratio during 1935-36 will be average or above average.

The total number of lambs fed for market this season will probably be considerably smaller than last year or in any other recent year. The Corn Belt States east of the Missouri River, as a whole, will probably feed more lambs this year than last, but there is expected to be a sharp reduction in numbers fed in the western Corn Belt and in the Western States.

Poultry marketings early in the fall were heavy and continued marketing and culling toward minimum numbers of layers may be expected as weather conditions prevent foraging.

FEEDING PROSPECTS AFTER 1935

Assuming average growing conditions during 1935, production of both feed grain and hay will be much larger than in 1934 and of feed grains above the 5-year average, 1929-33. Even though the acreage of corn planted in 1935 be held considerably below the 1932 and 1933 average acreage as a result of the 1935 corn-hog reduction program, and even though no restrictions are put on the acreage of other feed crops, the total production of feed grains will be large if the season is favorable.

In the case of hay, however, there is little possibility of a large crop of grass and legume hays in 1935 since over large parts of the drought areas a large part of the 1934 seedings was killed and the stand on old meadows was much reduced. Because of this situation a large quantity of small grains may be cut for hay rather than for grain.

The maladjustment, therefore, between feed supplies and livestock numbers will be largely in relation to feed grains and not to hay. The number of livestock in 1935 will be small, and if the production of feed grains is large, a sharp drop in the relative level of feed-grain prices is certain. With feed-grain prices low and meat-animal prices high there will then be a strong inducement to convert grain into meat and into animal products. Since the number of pigs raised in 1935 may be no larger than in 1934 and may be smaller, the possibility of converting additional grain into pork will be limited to the feeding of hogs to heavier weights. But in the winter of 1935 there will be a marked tendency to increase the number of sows bred to farrow in the spring of 1936. Unless restricted by unusual developments, there will be a very marked increase in hog production in 1936 and 1937.

Relatively low-priced feed grains in the fall of 1935 and 1936 will also encourage an increased utilization for finishing other kinds of meat animals and for producing animal products. The number of cattle and lambs finished for market will increase and the feeding periods, especially for cattle, will be longer. Increased quantities of grain will be fed to milk cows. Poultry will be fed a heavier ration to increase egg production and increase the weight of market birds. In general the supply of meat in 1936 and 1937, although not large relative to the average of recent years, will be of better quality than in 1935.

COMMERCIAL DEMAND

The quantity of corn and other feed grains used by industries in 1934-35 will be slightly less than in 1933-34 owing to the shortage and the high price of feed grains. Many products made from feed grains are nationally advertised manufactured food products and retail prices usually advance less rapidly than the cost of the raw materials.

Wet-process corn grindings from the 1933 corn crop (November 1933-September 1934) totaled 64,000,000 bushels, compared with 66,000,000 bushels in the same period of 1932-33. Increases in sales of various corn products were confined principally to refined corn grits (principally for the brewing industry), liquid corn sugar, specialty starch products, crude oil, and gluten feed. Exports of cornstarch increased sharply from a low level. Domestic markets were influenced somewhat by the increased competition in certain industrial fields through the heavier imports of duty-free foreign starches. In the period from November 1933 to August 1934 imports of tapioca flour totaled 153,000,000 pounds against 131,000,000 pounds in the same period of 1932-33. Prospects are

for a small reduction in the quantity of the corn ground by the wet process during 1934-35 compared with 1933-34.

Corn-meal production, although stimulated by the brewers' demand for grits and flakes, will be reduced during 1934-35 from that of 1933-34. The annual production of corn meal in the United States since the World War has been a fairly constant proportion of the corn crop. The 1934-35 high price of corn will tend to restrict the outlet for the better grades of table corn meal and stimulate the use of brewers' and screenings rice as an alternate for corn grits and flakes in the brewing industry. Imports of foreign broken rice increased from slightly less than 3,000,000 pounds in 1932-33 to over 26,000,000 pounds in 1933-34.

Use of corn and corn products in the distilled-spirits and fermented-liquor industries increased sharply in 1933-34. The number of operating breweries increased from 164 in 1932 (prior to relegalization) to nearly 700 in September 1934. Total utilization of corn and corn products in the manufacture of cereal beverages and fermented malt liquor in the fiscal year ended June 30, 1934, was 256,000,000 pounds, compared with nearly 57,000,000 pounds in the previous year and 6,500,000 pounds in 1931-32. The distilled-spirits industry used 12,800,000 bushels of corn in the fiscal year ended June 30, 1934, as against 5,800,000 bushels in 1932-33 and 4,850,000 bushels in 1931-32.

The commercial outlet for barley and other grains suitable for malting purposes improved materially in 1933-34. Manufacturers of beer used 1,433,000,000 pounds of barley malt and other malt in the fiscal year which closed June 30, 1934, compared with 384,000,000 in 1932-33 and 96,000,000 pounds in 1931-32. Distillers used 2,766,000 bushels of malt in 1933-34, 560,000 bushels in 1932-33, and 506,000 bushels in 1931-32.

Because of the probable increase in feed-grain acreage in 1935, feed grains for seeding purposes will be in good demand. The Department of Agriculture established a committee to locate and purchase various kinds of seed grains to meet the prospective shortage. On October 11, 1934, holdings of feed-grain seeds included 1,443,000 bushels of barley and 6,485,000 bushels of oats. A plan for the optional purchase of certain quantities of seed-quality corn, to be selected as needed from corn sealed on farms under loans from the Commodity Credit Corporation, has been devised.

PRICES

Prices of feed grains advanced sharply as the 1934 crop deteriorated in the drought area despite the liquidation in livestock. Generally speaking, the reduction in feed-grain supplies was relatively greater than the reduction in numbers of livestock. From April 15 (prior to the drought) to October 15 corn prices on farms advanced 63 percent, oats 55 percent, barley 78 percent, and hay 56 percent. Commercial feeds as a group advanced 41 percent in the same period. The sharp increase in feed-grain prices, together with liquidation of corn loans, was accompanied by unusually heavy marketings of feed grains. Market receipts were greater than shipments from the markets, resulting in a material increase in the accumulation of feed grains in primary markets. Corn stocks at 41 markets apparently reached a peak on September 22 when they totaled 64,130,000 bushels. Oats stocks were largest this fall on September 15 when the total accumulation was 26,484,000 bushels. Barley stocks increased up to 18,016,000 bushels by October 13. Corn and barley stocks in primary markets this fall were about as great as a year ago when they were also large, but oat stocks were only about one-half as big. On October 15 the price of corn, farm basis, was 95 percent of the "fair exchange value" of 80.9 cents, oats 100 percent of 50.3 cents, barley 97 percent of 78 cents, and hay 90 percent of \$14.96. "Fair exchange value" as defined in the Agricultural Adjustment Act is determined by multiplying the 5-year average farm price, August 1909 to July 1914, by the current index number of "prices paid by farmers."

Although the index of grains based on farm prices advanced 58 percent from October 15, 1933, to October 15, 1934, the index of meat animals gained only 16 percent, the index of dairy products 10 percent, and the index of chickens and eggs 16 percent. The relatively greater advance in grains indicates a less favorable feeding situation than prevailed a year ago.

The shortage of feed grains this season is so great that further radical change in feeding practices will be necessary to make supplies last until new grain is available. Ordinarily such great changes in feeding practices are not made until feed prices have continued for some months to be abnormally high in

comparison with the prices of meat animals and animal products. The trend of feed-grain prices during the current season will therefore be partly dependent on how soon farmers fit their feeding practices to the reduced supplies in sight.

These factors of scarcity, which in themselves now tend toward definite increases in prices of feed grains, are likely to be offset in large part by certain other factors in the prospective feed-price situation.

(1) Prices of feed grains have already advanced to a level relatively high compared with livestock prices. A greatly increased number of farmers would be unable to buy at prices materially above recent levels and would be forced to liquidate further their livestock, thus reducing the effective demand for feed.

(2) The price of corn in the country as a whole on October 15 was sufficiently near the price of wheat to induce the feeding of wheat in considerable quantities, especially to poultry. Since the domestic price of wheat now is fairly close to the level at which foreign wheat could be imported over the tariff, any marked tendency toward a higher level of feed-grain prices in this country may be resisted by importation of wheat and increased substitution of this grain for corn in feeding.

(3) Some importation of corn and other feeds over the tariff would result if feed-grain prices should rise materially above the recent level, and this would tend to prevent the price increase from being as great as it might be otherwise. Importations of corn in the next few months, however, are likely to be small because of limited foreign supplies.

HAY AND PASTURE

The 1934 hay crop is by far the smallest in the 16 years for which strictly comparable figures are available, and is one of the smallest in 30 years. The supply of hay for feeding this season is about 60,500,000 tons, which is 75 percent of the average for the 5 years 1928-32 and about 77 percent of the quantity used in the 1933-34 season. The quantity of substitute roughages (such as corn fodder and stover, legume straw and grain straw, sorghum, weeds, etc.) available to supplement the small hay crop is not definitely known, but in the aggregate it is very considerable, and in some areas where the ordinary hay crops were unusually small, such substitutes are the principal roughages locally available.

After making allowances for reductions in livestock, the total supply of hay, silage, and other roughage available for use this winter for the country as a whole appears to be nearly enough to maintain the reduced livestock population in the drought areas, if the use of hay and roughage in other areas is somewhat restricted. Complete utilization of supplies is hampered by the practical difficulty and heavy expense of moving hay and roughage from remote surplus areas to points of deficiency. Domestic supplies of hay and roughage probably cannot be augmented much by importations except in a few of the border States.

There probably will be a deficiency of hay in 1935 because of the heavy loss of both old and new seedings in drought areas in 1934 and the shortage of seed for planting new hay acreage. This will be overcome to some extent by retaining old meadows and pastures that have a fair stand and by economizing in the use of seed by proper seed-bed preparation.

SUPPLIES OF HAY AND FORAGE

The October estimate of hay production was 57,728,000 tons, compared with 74,616,000 tons harvested in 1933 and the average of 83,618,000 tons for the 5 years, 1927-31. These figures include only the crops usually cut for hay. Production of clover and timothy hay was about 16,900,000 tons in 1934, compared with 25,200,000 tons in 1933. There has been a downward trend in production of this kind of hay for 7 years. Alfalfa hay production of 19,500,000 tons, although only 78 percent of the 1933 crop, for the first time exceeds the production of clover and timothy hay. Wild-hay production was about 5,300,000 tons or 62 percent of that harvested in 1933. The production of annual legume hay has been extended tremendously this year in an effort to make up for the very small production of other kinds of hay. Much larger areas of small grains have been cut for hay than usual.

The United States average price being received by farmers for loose hay was \$13.40 per ton on October 15, 1934, compared with \$7.54 on October 15, 1933—an increase of 78 percent. Comparable prices for alfalfa hay were \$15.07 and

\$8.20; for mixed clover-timothy hay, \$15.46 and \$8.67; and for prairie hay, \$11.86 and \$5.46.

Except in the Pacific Northwest, there is a general shortage of hay and other roughages west of the Mississippi River. In this region the production of hay in 1934 was less than three-fourths of average, and in the Great Plains it was mostly less than half of the average. In the southern Plains States pasturage on fall-sown grains will help to offset an apparent shortage of about 2,200,000 tons (hay equivalent) of ordinary roughage. Some of the shortage can be taken care of by closer-than-usual use of such feed as is available. In the northern Plains States, hay and roughage requirements for this winter are equivalent to 12,500,000 tons of hay, whereas supplies of hay, sorghum forage, and silage are equivalent to only 9,100,000 tons of hay. It has been estimated that about two-thirds of the deficiency can be made up by better utilization of the corn fodder and stover and straw produced in this area. Large quantities of Russian thistle and other weeds have been cut in this area to supplement the roughages commonly used. Much of Missouri and parts of Iowa and Minnesota will need more feed than was produced. In most of the eastern Corn Belt and the Northeastern States, supplies of hay and other roughages are greater than actual feeding requirements, although desirable kinds of hay are scarce in some of the dairy sections. Kentucky, Tennessee, and most of the Southeastern States have ample supplies, and in some places there is a surplus of hay.

As a result of the activities of the Forage Conservation Office approximately 500,000 tons of corn fodder and corn stover were harvested over and above the quantity that would have been harvested in northern Iowa, southern Minnesota, Illinois, Indiana, and Ohio. In these States the Government has guaranteed a price of from \$7 to \$9 a ton on corn fodder and corn stover, and this should make considerable feed of this character available. Large quantities of drought-damaged corn were cut in the western Corn Belt, but much of this material is in rather poor condition because of the development of molds after it was in the shock.

PASTURES

The carrying capacity of ranges and pastures, except in the Southeast, has been much below average and it has been necessary to graze a considerable acreage of hay land. Because of the shortage of roughages, most pastures will be closely grazed until late this fall, and, not having adequate protection, they will be further weakened by exposure during the winter. However, considerable acreage was seeded to wheat, rye, and winter barley in a number of the drought States for use as fall and winter pasturage in addition to that obtained from the usual acreage of fall-sown grains. These seedlings were made with the understanding that they would not be harvested as grain. This grain-pasture acreage should relieve the excessive grazing on permanent pastures to a certain extent.

Grazing will probably begin early next spring before the grass has had time to make a good growth and develop a strong root system. Pastures grazed too early or too heavily are likely to become thin and patchy and to be lowered in carrying capacity. Careful early grazing will insure more pasturage later and will lessen the need for supplementary feeds during the summer. With an open winter, grain pasturage will reduce the in-shippments of concentrates. Very little summer growth of bluegrass pasture will be available this fall and winter, especially in southern Iowa and Missouri. Reports indicate that the drought and excessively hot weather have actually killed a large percentage of the bluegrass in many of the pastures and all of it in some pastures throughout parts of Iowa, Missouri, and southern Illinois.

FORAGE-CROP SEEDS

Supplies of grass and clover seeds are about 40 percent smaller than those of last year and about 50 percent smaller than the average for the 5-year (1928-32) period. Of these seeds, supplies are relatively shortest for timothy, millet, Sudan grass, alsike clover, red clover, and sweetclover, in that order. On the other hand, supplies of alfalfa and Kentucky bluegrass seed are sufficient to meet normal sowing requirements, while those of redtop seed are over twice the requirements.

Production of forage-sorghum or sorgo seed is expected to be much below average, and the carry-over of this seed is unusually small because of the excellent demand for all late forage-crop seeds last spring.

The production of soybeans this year is expected to be 20 to 30 percent larger than last year, whereas that of lespedeza seed is indicated to be somewhat smaller than the record production of last year. A larger percentage of the lespedeza acreage than usual was cut for hay.

Prices for all kinds of grass and clover seeds are much higher than last year and in most cases are higher than the 5-year (1928-32) average.

It is not probable that importations of hay and forage-crop seeds can be made in sufficient quantities to supplement materially the domestic supply.

MEAT ANIMALS AND MEATS

The decrease in the number of livestock as a result of the greatly reduced hog production and the increased slaughter of cattle and sheep this year, together with the shortage of feed crops necessary for fattening livestock, will result in a very marked reduction in both numbers and weights of animals for slaughter during most of 1935. Not only will total marketings of meat animals in the coming year be reduced but the general quality and finish of such animals will be much below average. The reduction in slaughter will be most pronounced after February 1935, and the greatest relative shortage is likely to develop during the summer months. The decrease in the output of pork is expected to be much greater relatively than that of beef or lamb.

The marked decrease in livestock slaughter in prospect is likely to result in a substantial advance in prices of all meat animals next year, and the level of livestock prices in 1935 is expected to be the highest since 1930.

SUPPLIES

The supply of meat animals on farms in terms of total live weight of the three species at the beginning of 1935 probably will be the smallest for more than 35 years. Marked decreases in numbers will occur in the case of all classes of livestock, but the greatest decrease will be in hog numbers. Although some increase in the numbers of hogs on farms may occur by the end of 1935, little or no increase in numbers of cattle or sheep is probable before the end of 1936. This great reduction in number of livestock will result in a marked curtailment in the Nation's meat supply for the next 2 years at least.

The trend in the number of meat animals was upward from 1928 to the beginning of 1934. From January 1, 1928, to January 1, 1934, the supply of meat animals on farms in terms of total live weight increased about 12 percent. The number of cattle on farms increased steadily from 1928 to early 1934, and the number on January 1, 1934, was 19 percent larger than on that date in 1928. By the end of 1934 much of this large increase in the preceding 6 years will have been eliminated. Hog production (number of pigs raised) declined from 1928 to 1930, increased sharply in 1931, and changed little in 1932 and 1933. Chiefly because of the operation of the emergency pig-buying program in 1933, the number of hogs on farms at the beginning of 1934 was about 9 percent smaller than a year earlier. As a result of the greatly reduced number of pigs raised in 1934, the number of hogs on farms on January 1, 1935, will be much smaller than on that date in recent years, with a decrease from a year earlier of 30 to 40 percent not improbable. Sheep numbers increased steadily from 1923 to 1932, the increase amounting to about 17,000,000, or 45 percent. From 1932 to 1934 the number of sheep decreased slightly, but numbers on farms on January 1, 1935, will be reduced considerably from those of a year earlier.

The commercial supply of meats and lard during the first 8 months of 1934, as measured by total dressed weight of animals slaughtered under Federal inspection but excluding relief purchases by the Federal Government, was about 5 percent smaller than in the same period last year, and about equal to the 5-year average for the period. As compared with a year earlier, the decrease in meat and lard production was due entirely to the reduction in supplies of pork, including lard, and of lamb and mutton. Production of beef and veal under Federal inspection during the first 8 months of 1934 was the largest for the period since 1918. The decrease in the commercial production of pork, including lard, under Federal inspection in the January-to-August period amounted to about 16 percent and that of lamb and mutton to 9 percent. In addition to the regular meat production under Federal inspection, purchases by the Federal Government for relief purposes either in the form of hogs or hog products were roughly equivalent to 200,000,000 pounds dressed weight.

Likewise large quantities of beef, veal, and mutton have been and will be processed for Government account during 1934 for relief distribution.

The per capita commercial supply of meats and lard (measured in terms of dressed weight), obtained from federally inspected slaughter, excluding relief purchases by the Government, during the first 8 months of 1934 was 70 pounds compared with 74.2 pounds in the corresponding months last year, and 68.7 pounds in 1932.

The average live weight of both cattle and hogs slaughtered under Federal inspection during the first 8 months of 1934 was smaller than during the corresponding months of 1933, and smaller than the 5-year average. The decrease in average weights compared with a year earlier amounted to about 2 percent for cattle and 3 percent for hogs. The average weight of calves slaughtered under Federal inspection in the January-to-August period in 1934 was slightly heavier than a year earlier, while the weight of sheep and lambs showed little change. Lower dressing yields were also reported for all classes of meat animals except sheep and lambs.

Smaller supplies of poultry meat are in prospect for the first half of 1935. Numbers of laying hens and pullets on October 1, 1934, were the smallest on record since 1925. The number of all chicks hatched during the spring of 1934 was the smallest since 1927, and an unusually large proportion of these were marketed during the summer and early fall. The number of turkeys to be marketed this fall and winter will be somewhat less than the number marketed last year. Chiefly because of large marketings of poultry in recent months, storage stocks of dressed poultry on October 1, 1934, were about 11 percent greater than the 5-year average for that date. With smaller numbers of chickens on hand, a decreased rate of movement of poultry to market is to be expected, and the volume of poultry meats available for consumption during the first half of 1935 will be considerably less than the average of the last 5 years.

DEMAND

The sharp decline in consumer demand for meats and lard which began in early 1930 was finally checked in the first half of 1933, and since that time considerable improvement has occurred. For the first 8 months of 1934 the demand for meats and lard, measured in terms of quantities taken and prices paid by consumers, has averaged considerably higher than in the corresponding period of 1933. Per capita consumption of all meats and lard produced under Federal inspection, excluding relief purchases by the Federal Government, totaled 67 pounds from January to August 1934, which was about the same as in the corresponding months of 1933. The weighted average retail price of these products at New York was about 13 percent higher in the first 8 months of 1934 than in the same months of 1933. The index number of retail meat prices as reported by the United States Bureau of Labor Statistics for the entire country showed a rise of 11 percent in the January to August period of 1934 over that of 1933.

The improvement in consumer demand during the present year has extended to all classes of meats. Per capita consumption of federally inspected beef and veal from January to August 1934 was about 15 percent greater than that of 1933, but both the per capita consumption of federally inspected pork, including lard, and the per capita consumption of federally inspected lamb and mutton were about 9 percent less. The advance in retail meat prices at New York from 1933 to 1934 amounted to about 5 percent for beef, 19 percent for hog products, and 15 percent for lamb.

The higher levels of industrial employment and pay rolls have been the principal factors responsible for the improvement in consumer demand for meats during 1934. It is estimated that incomes of industrial workers in the first 8 months of 1934 were nearly 40 percent greater than in the corresponding months of 1933. Large governmental disbursements for relief and other purposes also have been an important factor responsible for the stronger demand for meats in the present year. The level of consumer demand for meats in 1935 will depend to a considerable extent upon developments in the industrial and business situation generally, which in turn will determine the level of consumer buying power. On the basis of present indications it appears probable that the improvement in the demand for meats, which occurred this year, will be fairly well maintained in 1935. If consumer demand for meats next year is maintained at or near the 1934 level, the greatly reduced meat supplies will be accompanied by materially higher prices for meats and livestock as well.

HOGS

Commercial slaughter supplies of hogs in the 1934-35 hog-marketing year will be the smallest in more than 20 years. A marked decrease will occur in both numbers and average weights of hogs marketed. A reduction in hog production was already under way prior to the summer of 1934 as a result of the very unfavorable relationship between hog prices and corn prices since the middle of 1933, and the operation of the 1934 corn-hog adjustment program. The severe drought and resulting shortage in feed supplies during the present year will cause the decrease in hog production to be even greater than would have occurred otherwise.

Hog prices in 1934-35 are expected to average materially higher than the relatively low levels of prices that prevailed during the last 3 marketing years, largely because of the substantial reduction in slaughter supplies of hogs and other livestock. Consumer demand for hog products has improved considerably during the present year, and a maintenance of the present level of demand appears probable for 1934-35. Exports of hog products in the next 12 months will continue relatively small because of import restrictions and the greatly reduced domestic production.

Although hog production in 1934 has been sharply curtailed and per capita production of hog products in the current marketing year (October 1934 to September 1935) will be the smallest in the half century at least, it is possible that production in 1935 will be further reduced. It now appears probable that the spring-pig crop in 1935 will be smaller than that of 1934, and it is hardly probable that the 1935 fall-pig crop will be sufficiently large to offset the decrease in the spring-pig crop. Thus a material increase in hog slaughter is improbable before the 1936-37 marketing year.

DOMESTIC SUPPLIES

Supplies of hogs for commercial slaughter for the hog-marketing year beginning October 1, 1934, are likely to be the smallest in more than 20 years. As a result of the combination of the very unfavorable relationship between hog prices and corn prices prevailing since the middle of 1933, the 1934 corn-hog adjustment program, and the shortage of feed supplies occasioned by the severe drought during the present year, the total pig crop for 1934 has been greatly curtailed. It is this pig crop (farrowed in 1934) from which the market supply of hogs will be obtained in the 1934-35 marketing year. In view of the very short supplies and high prices of corn and other feed grains, hogs will be marketed at weights much lighter than average, consequently the decrease in the production of pork and lard will be relatively greater than the reduction in numbers of hogs slaughtered.

The 1934 spring-pig crop was estimated at 37,427,000 head, a decrease of about 15,000,000, or 28 percent, from the spring crop of 1933 and a reduction of about 27 percent below the 5-year (1929-33) average spring crop. The decrease was general all over the country; the estimated crop in the Corn Belt States of 30,122,000 head showed about the same percentage decrease as did the total crop. Because of the marked reduction in the spring-pig crop, the number of hogs slaughtered commercially during the current winter-marketing season (October 1934 to April 1935) will be the smallest in many years. Just how small it will be depends to a considerable extent upon the disposal of the hogs in the drought States. If the 1934 spring pigs in these States should be fed out and marketed at about the usual time, inspected slaughter in the winter season might reach 20,000,000 head, which would be the smallest for the period since about 1910. But with feed-grain supplies in these States so short it is possible that many of these spring pigs will not be fed out this winter but will be carried on a subsistence ration until next spring and then carried largely on pasture until new grain becomes available next summer. Any general tendency of this kind would reduce further the slaughter in the winter season and would increase the slaughter toward the end of the marketing year.

The official estimate of the fall-pig crop will not be made until December. In the June pig-crop report it was estimated, upon the basis of breeding intentions reported about June 1, that the number of sows to farrow in the fall season of 1934 would be 38 percent smaller than in the fall of 1933. When these breeding intentions were reported there were good prospects for an average corn crop. As a result of the drought, and the high level of corn prices compared with hog prices which continued all through the summer, the fall-pig

crop may have been reduced more than 38 percent; a reduction of 50 percent is not improbable. If the fall crop of 1934 should be 60 percent of that of 1933, it would total less than 18,000,000 head for the entire country and less than 13,000,000 head in the Corn Belt, and the combined spring and fall crops in 1934 would be about 55,500,000 head for the United States and about 43,000,000 head for the Corn Belt. The United States pig crop in 1933 totaled 81,700,000 head and in 1932 it was 81,000,000 head. If inspected slaughter during the crop year should bear somewhat the same relationship to the total number of pigs saved in the Corn Belt as in recent years, the total of such slaughter during the 1934-35 marketing year may not reach 30,000,000 head and may be the smallest in numbers since 1909-10. Inspected slaughter in the 1933-34 marketing year totaled 43,910,000 head and the 5-year average (1929-30 to 1933-34) amounts to 45,348,000 head.

With the marked shortage in feed grain over a large section of the Corn Belt and the continuing very unfavorable hog-corn price ratio, it is certain that hogs will be marketed at very light weights, consequently the average weight of hogs slaughtered during this marketing year may be the smallest since 1916 at least. A reduction of 20 pounds in the average weight from the previous year would be equivalent to a reduction of 9 percent and the resulting total production of hog products would be decreased even more, relatively, than will be the decrease in numbers slaughtered. The per capita production of hog products from the 1934-35 inspected slaughter will be the smallest on record.

Because of the light weights and low quality of the hogs marketed in recent months, yields of lard per 100 pounds live weight have been extremely low. Lard yields in every month since February this year have been the smallest for the month in question in the 12 years for which records are available. Since hogs are likely to be marketed at very light weights during the next 12 months, lard yields are likely to continue low, and the production of lard in 1934-35 probably will be reduced relatively more than the production of pork.

STORAGE SUPPLIES

Total storage stocks of hog products at the beginning of October were below the average. At the beginning of the storage season last November, stocks of both pork and lard were relatively large; holdings of lard on November 1, 1933, were the largest for that date on record. Stocks of pork continued large until February, but the seasonal decrease which normally begins in late spring got under way earlier than usual and pork stocks have been below average since March. Stocks of lard increased somewhat from November 1933 through July 1934, as they normally do during this period, and throughout these months lard stocks were above average. In August and September, however, the seasonal reduction in lard holdings was greater than usual. On October 1, 1934, holdings of pork, amounting to 524,000,000 pounds, were 17 percent smaller than those of a year earlier and 1 percent below the 5-year average for that date. Stocks of lard on October 1, totaling 128,000,000 pounds, were about 34 percent smaller than the unusually large holdings on that date last year, but they were about 17 percent greater than the 5-year October 1 average. As compared with a year earlier, the decrease in storage stocks of pork and lard combined, on October 1, was equivalent to the products of more than 1,000,000 hogs of average weight.

Since slaughter supplies of hogs in the late winter and spring, as well as next summer, will be very small, and rising prices of all hog products are probable, it seems likely that a strong storage demand for hog products will develop by early winter. Despite this probable active storage demand, stocks of pork and lard accumulated during the current winter-marketing season will be small because of the greatly reduced hog slaughter in prospect.

CONSUMER DEMAND

[See Demand, p. 52]

FOREIGN COMPETITION AND DEMAND

United States exports of pork and lard in 1935 probably will be smaller than the exports in 1934. Two outstanding factors indicate a reduction in such exports: (1) The prospective marked decrease in hog production in this country during the current marketing year, and (2) the maintenance and possible extension of trade barriers in European importing countries. The British

import-quota system is the most important restriction to United States exports of cured pork. The commercial policy recently adopted in Germany has practically eliminated, at least temporarily, that country as a foreign market for United States lard, whereas formerly it was the second most important outlet.

Exports of pork from the United States in the hog-marketing year ended September 30, 1934, totaled about 158,000,000 pounds, an increase of about 20 percent over the exports of 1932-33. A larger-than-usual proportion of the total pork exports in 1933-34 consisted of fresh frozen pork. The principal factors tending to cause an increase in exports of pork in the last 12 months, when domestic pork production was decreasing, have been (1) the relatively high prices obtainable in Great Britain for the quota quantity of hams and bacon and for fresh frozen pork, and (2) the payment of a drawback equivalent to the hog-processing tax on all exports of hog products. Lard exports in the 1933-34 marketing year, amounting to about 525,000,000 pounds, were about 8 percent smaller than those of a year earlier. Increased restrictions on lard imports into Germany and the reduced domestic production were the chief factors responsible for the decrease in lard exports. On the other hand, the processing-tax drawback probably prevented an even greater decrease in such exports.

Under the British import-quota system, the United States is allotted 8.1 percent of the total volume of cured pork allowed entry from countries outside the British Empire. At present the total volume of cured-pork imports allotted to non-Empire countries is about 726,000,000 pounds annually. The total allotment in the future will depend largely upon the progress made in increasing cured-pork production in Great Britain. A further reduction in the British import quota for cured pork is contemplated in 1935 and a plan for limiting imports of frozen pork into Great Britain next year also is under consideration.

During recent years prior to 1934, exports of lard to Germany usually represented about 25 percent of the total United States exports. During the last few months, however, exports to Germany have declined to negligible quantities. The present German policy with reference to lard imports is one of curtailing imports from all sources to a minimum, and taking the reduced total, insofar as possible, from countries that have clearing or barter agreements with Germany. In the last 3 months, Denmark has been the leading source of the greatly reduced German lard imports, despite the fact that lard production in Denmark has decreased. Small quantities of lard also have been imported into Germany recently from Yugoslavia and Hungary. The continuation of the present German policy relative to lard imports is somewhat uncertain, but no material expansion in the German outlet for American lard appears probable for next year.

Hog production in Europe is expected to decline somewhat in 1935. This decline probably will occur chiefly in Germany and in some other continental European countries where production was encouraged during 1933 as a step toward increased self-sufficiency and as a means of utilizing relatively large grain supplies. Indications are that hog marketings in Germany will continue fairly heavy until early 1935, in view of the relatively large number of hogs now on hand in that country and the shortage and high prices of feeds in Europe. Hog production in the leading European pork-exporting countries (Denmark, The Netherlands, Poland, and Lithuania) was reduced in 1933 and early 1934 because of the pork-import restrictions of Great Britain, their leading foreign market. Future changes in hog production in these countries will be governed to a considerable extent by developments in Great Britain. A substantial increase in British hog production in early 1935 might be followed by a smaller pork-import quota. Thus far, however, British hog producers have increased production only moderately as a result of the protection afforded by the import-quota system.

PRICES

Hog prices in the first quarter of the marketing year, 1933-34, were at a relatively low level, but when hog slaughter was seasonally reduced in the late winter, prices advanced sharply. This advance was of short duration, however, and hog prices declined steadily from early March until early June. With some curtailment in supplies in June, prices again advanced and most of this rise was maintained through July. The seasonal reduction in hog slaughter from July to August was much greater than usual, and with the return of more moderate temperatures in August consumer demand for meats

improved and one of the most pronounced advances in hog prices on record occurred during that month. In late August the top price of hogs at Chicago reached \$8.05, the highest price paid at that market in more than 3 years. Following this sharp advance, market supplies of hogs increased somewhat and the usual autumn decline in hog prices began, and by mid-October more than half of the August rise had been lost. However, the Chicago average price of hogs for the week ended November 3, of \$5.38 was about \$1.40 higher than a year earlier and about \$2.20 higher than 2 years earlier.

The total live weight of hogs slaughtered under Federal inspection during the 1933-34 marketing year was about 10 percent smaller than in the preceding year and 8 percent smaller than the 5-year average. The average price paid by packers for hogs in 1933-34 (exclusive of the hog-processing tax) was about \$4.05 per 100 pounds, compared with \$3.75 in 1932-33 and \$3.93 in 1931-32. The total amount paid by packers for hogs slaughtered under Federal inspection for the marketing year 1933-34 (excluding processing-tax payments) was about \$400,000,000, or slightly less than the amount paid in 1932-33 and that paid in 1931-32. In addition to the returns from the sale of hogs, hog producers cooperating in the hog-production-control plan have received, or will receive, hog-benefit payments, from the first payment under the 1934 Agricultural Adjustment program, totaling about \$90,000,000, most of which was received during the 1933-34 marketing year. Two additional payments under the 1934 program will be made during the 1934-35 marketing year.

Hog prices in the 1934-35 marketing year are expected to average materially higher than the relatively low levels of prices in the last 3 marketing years because of the prospective marked decrease in the slaughter supplies of hogs and other livestock. Total available supplies of pork and lard, including storage stocks, will be much smaller throughout the present winter-marketing season than a year earlier, and hog prices probably will be considerably higher this winter than last. The greatest decrease in hog marketings in the winter season, as indicated earlier, is likely to occur in the late winter and spring, and the seasonal rise in hog prices at that time probably will be greater than usual. In addition to the effects of smaller slaughter supplies, hog prices during the winter probably will also be strengthened by a strong storage demand for hog products. The greatest relative decrease in slaughter supplies of hogs for the entire marketing year, however, probably will occur in the summer of 1935 and it is probable that hog prices next summer will average higher than for any summer since 1930, when the average price at Chicago was about \$9.50.

In view of the probable sharp decrease in weights of hogs marketed during the next 12 months, it seems probable that supplies of heavy hogs will be reduced much more than the total marketings of hogs, and that such hogs will sell at a substantial premium over light and medium-weight hogs during most of the current marketing year. Normally, there is little difference in the prices of the different weights of butcher hogs in the winter season, and in the summer heavyweight hogs usually sell at a discount.

PRODUCTION OUTLOOK

Although hog production was drastically curtailed in 1934 and per-capita production of hog products during the next 12 months probably will be the smallest in at least 50 years, it is possible that production in 1935 may be further curtailed. It is fairly certain that the spring-pig crop of 1935 in the States of the Corn Belt that had the worst drought will be much smaller than the spring-pig crop in 1934. About 45 percent of the 1934 spring pigs were raised in the Corn Belt counties classified as emergency drought counties, and over 50 percent were raised in the emergency drought counties and in other areas where corn production was greatly reduced.

There may be a considerable tendency to increase spring-pig production in the areas where feed supplies are more nearly normal, but it hardly seems possible that increases in the 50 percent located in these areas would offset the certain decrease in the 50 percent located in the drought areas, especially with a production-control program in operation. With a control program in effect which limits the number of hogs than can be produced by contract signers, such restriction will tend to check the increase in the 1935 spring-pig crop in areas where feed supplies are fairly plentiful. If, however, feed-crop prospects for 1935 are favorable, there may be a material increase in breeding for the 1935 fall farrow in the drought areas where available breeding stock makes

this possible, but the increase in the fall-pig crop in all areas would probably not be large enough to offset the decrease in the spring crop. Hence total production may be smaller in 1935 than in 1934.

With relatively high hog prices during all of 1935 in prospect and probably declining feed-grain prices during the last half of the year, the hog-corn price ratio may again become highly favorable for hog production during the last half of 1935 if crop-production prospects are good. This will tend greatly to expand breeding for farrow in the spring of 1936, especially in the present drought areas.

What effect 2 years of very short supplies and high prices of hog products may have on consumer demand for such products, as a result of enforced changes in dietary habits, can hardly be foreseen. It is not improbable, however, that the usual relationship between supplies and prices of hogs and hog products will be disrupted somewhat, and it is possible that when supplies increase, the resulting drop in prices will be greater than normally would be expected from such an increase.

BEEF CATTLE

The outlook for the cattle industry has been changed greatly as a result of the drought and the drought-relief measures taken to aid cattle producers. At the beginning of 1934 the estimated number of all cattle on farms was about 10,500,000 larger than in 1928, the low point of the production cycle. But it is probable that by the beginning of 1935 most of this large increase which occurred from 1928 to 1934 will have been eliminated. This sharp reduction in a single year has been brought about by the large slaughter of cattle and calves for Government account, as well as by increased slaughter of cattle and calves for regular commercial use.

Marketings and slaughter of cattle and calves in 1935 are expected to be greatly reduced, with inspected slaughter of the two classes smaller than for more than a decade. In view of the probability of much smaller market supplies of cattle and other meat animals, cattle prices are likely to average materially higher in 1935 than in the present year. But even though slaughter should be considerably smaller than in 1928 and 1929, it is not probable that prices will reach the levels of those years, because of the much lower purchasing power of consumers. The reduction in cattle slaughter probably will be much greater in the case of cows and heifers than in steers. The decrease in slaughter supplies of all cattle and of well-finished cattle is likely to be most pronounced during the summer and fall months.

Although cattle numbers may be reduced about to the 1928 level by the beginning of 1935, the decrease from a year earlier will vary greatly among areas. In general, numbers will be reduced little, if any, in the areas east of the Mississippi River, but west of the Mississippi River there will be marked decreases. If cattle prices are high relative to feed prices during the next few years, as seems probable, increases in numbers of cattle can be expected in all areas, but expansion will be greatest in the areas where numbers have been so greatly reduced in 1934. The upswing in cattle numbers, however, is not likely to get under way until 1936, since the small calf crop and death losses above average expected in 1935 probably will prevent any increase during that year.

SUPPLIES

Cattle numbers increased about 1,800,000 head during 1933, and on January 1, 1934, the estimated number of all cattle on farms was 67,352,000. This number was about 10,500,000 larger than that on January 1, 1928 (the low point of the current production cycle) and about equal to the number on January 1, 1923. The number of cows and heifers 2 years old and over January 1, 1934, was estimated at 36,346,000, and was probably the largest for all years. This was an increase of about 5,500,000 over the number estimated as of January 1, 1928, and 2,300,000 over that of January 1, 1923.

On January 1, 1935, the number of cattle is expected to be reduced to a total not much larger than that on January 1, 1928. In other words, most of the increase that took place during the 6 years 1928-34 will have been eliminated within a single year. A large part of the decrease resulted from the buying of cattle and calves by governmental agencies as a part of the drought-relief activities of the Federal Government. Even though there had been no

such buying, cattle numbers would have shown considerable decrease during 1934, since there would have been heavy death losses in some areas before the end of the year, and marketings and slaughter through regular channels would have been much larger than the large volume of commercial slaughter that has taken place. This regular slaughter, however, would not have been so large as the combined total of regular and governmental slaughter will be, hence numbers by the end of 1934 would not have been reduced to the extent that they now will be. But death losses during the early months of 1935 would have been very large, and the total reduction in cattle numbers by the end of 1935 probably would have been as large as that which will now be shown at the end of this year.

Total slaughter of cattle and calves under Federal inspection for the year 1934, not including slaughter of Government cattle, probably will total about 15,500,000 head, which is an increase of about 2,000,000 over 1933 and the largest yearly total on record. Total purchases of cattle and calves for Government account will be at least 7,500,000 head. Of these, upward of 1,200,000 will have been condemned as unfit for shipment and killed at point of purchase. Most of the remaining numbers will have been slaughtered by the end of 1934 for the account of Federal and State relief agencies. Government purchases to the end of October totaled about 7,000,000 head, of which at least 5,800,000 had been slaughtered by that date and nearly 1,000,000 were remaining on pasture.

The proportion of cows and heifers in the total inspected slaughter in 1934 was much larger than in any recent year. During the first 8 months, slaughter of cows and heifers for commercial account was 630,000 head larger than for the corresponding period of 1933, while the increase in slaughter of steers was only 387,000 head. Of the cattle and calves purchased by the Government and shipped by the end of October, about 23 percent were calves. Cows and heifers comprised a large proportion of the cattle purchased. Of the total number of cattle to be finally slaughtered, probably 80 percent will be cows and heifers. As a result of this large slaughter of female cattle, the reduction in the number of these remaining on farms at the end of this year will be relatively greater than in any other class, except possibly calves.

Although the condition of pastures in the Corn Belt States during the summer was the lowest on record, and prospects for feed-grain and hay production were about the poorest ever known, the shipment of stocker and feeder cattle into these States has been relatively large. Total shipments, inspected through markets, for the 3 months, July to September, were about 655,000 head. This number was about 50 percent larger than the total of the very small shipments for these months in 1933, about 18 percent larger than the 5-year (1929-33) average, and the largest for the period since 1928.

In July 1934, when prospects for a corn crop were still fairly good over much of the Corn Belt, the movement into all the States was relatively large, with the total more than twice as large as in 1933 and the largest for the month of July since 1925. In August and September the movement into the States where the effects of the drought were more serious dropped off sharply, but into other States it continued large. For the 3 months the five eastern Corn Belt States received nearly two and one-half times as many cattle as in 1933 and the largest number for those months since 1926. Of the western Corn Belt States, Iowa and Minnesota are the only States in which receipts of cattle this year (during the 3 months) exceeded those of a year earlier. The movement into Iowa was especially large.

To what extent this increased movement of stocker and feeder cattle will be reflected in enlarged feeding operations this winter in the States where such cattle have largely gone is uncertain. The character of the cattle shipped from four large markets would indicate that a larger than usual proportion of these cattle were bought for stockers rather than for feeders. The numbers of heavy cattle (over 900 pounds) shipped from these markets during the 3 months were below the very small shipments of last year, and the largest increases over last year were in steers under 700 pounds, in calves, and in cows and heifers. In the drought States, undoubtedly, cattle feeding during the next 12 months will be on a greatly reduced scale. Many of the cattle fed in these States are not bought in stockyards markets, and a decrease in the direct movement would not be evidenced by the inspected shipments from these markets.

Reports from the Western States are to the effect that cattle feeding in all of these, except possibly California, will be reduced as a result of the small

supplies and high prices of grain and hay. Feeding at cottonseed mills in Texas also will be sharply curtailed.

Marketings and slaughter of cattle and calves in 1935 are expected to be greatly reduced. Slaughter of cattle under Federal inspection probably will be the smallest since 1915, and that of calves the smallest since 1921. The reduction in cattle slaughter will be much greater in the case of cows and heifers than in steers. The number of well-finished slaughter cattle during much of 1935 is expected to be small, although there may be a fairly large supply of short-fed cattle during the earlier months. The greatest reduction in supplies of all cattle and of well-finished cattle will probably be most pronounced during the summer and fall months.

IMPORTS

Cattle imports during the first 8 months of 1934 totaled 55,000 head, compared with 60,000 and 66,000, respectively, for the same periods of 1933 and 1932. Mexico supplied 51,000 of the 1934 total and 4,000 came from Canada. Imports of cattle have been declining since 1929. Imports for the entire year 1929 totaled 505,000 head, whereas in 1933 such imports were only 80,000.

Supplies of canned beef inspected by the Bureau of Animal Industry for entry into the United States from January 1 to August 31, 1934, amounted to 25,644,000 pounds, which is 9 percent less than those received in the corresponding period of 1933 but 64 percent more than were received during the first 8 months of 1932. Imports of canned beef also have declined considerably since 1929, when the yearly total amounted to 77,481,000 pounds. Imports of such beef in 1933 totaled 43,183,000 pounds.

Imports of fresh and frozen beef during the first 8 months of this year totaled 137,000 pounds, compared with 342,000 pounds imported during the same period of 1933. Canada and New Zealand continue as the leading sources of imports of fresh and frozen beef, supplying 71,000 and 19,000 pounds, respectively, most of the remainder coming from Australia.

The imports of live cattle and the imports of canned and other beef in the first 8 months of 1934 were the equivalent of less than 3 percent of the commercial cattle slaughter under Federal inspection during this period.

CONSUMER DEMAND

[See Demand, p. 52]

PRICES

The trend in cattle prices was sharply downward from 1930 through 1932, and in early 1933 prices reached the lowest level in at least 25 years. During the remainder of 1933 prices were fairly stable, advancing only moderately in the early summer of that year. During 1934 the price trend for most classes and grades of cattle was upward from the low level at the beginning of the year to late September, but in October prices declined somewhat as a result of a tendency to liquidate cattle because of feed shortage. The rise to September was most pronounced in the case of the better grades of slaughter steers, prices of which advanced about \$3.50 per 100 pounds from the beginning of the year and carried the top at Chicago to \$10.95 per 100 pounds, the highest price paid at that market since early 1932. Prices of the lower grades of slaughter steers, however, advanced much less than did those of the better grades. Prices of Common steers during the last week of October were about the same as in early January, whereas prices of all other grades were substantially higher. The margin between prices of the lower and higher grades of steers has widened materially during the present year. In mid-October the spread between prices of Common steers and prices of Choice and Prime steers at Chicago was \$5.18 compared with \$2.11 a year earlier, and \$1.88 last January, before the advance in cattle prices got under way.

Prices of Good cows advanced considerably during the first 5 months of 1934, but since April cow prices generally have declined. Prices of low-grade cows have shown little change during the year, and at the end of October were only slightly above the low level of a year earlier. Prices of veal calves declined almost steadily from February to July because of the large commercial calf slaughter during the period. From mid-August to October, however, some recovery in calf prices occurred, but part of this rise was lost in the latter month. Prices of stocker and feeder cattle declined sharply in the last half of

1933 and advanced only moderately in early 1934. During June and July prices of such cattle declined considerably, but after mid-August there was some recovery, and in the middle of October they were slightly above the low level prevailing in October 1933. Since last May, however, stocker and feeder cattle prices have been much lower relative to prices of well-finished cattle than was the case in 1933.

The United States yearly average farm price of cattle declined from \$9.15 in 1929, the post-war peak year, to \$3.63 in 1933. The lowest monthly average, \$3.12, was reached in December of the latter year. Farm prices advanced gradually through 1934 to September when the average was \$4.21, compared with \$3.61 a year earlier. A seasonal decline in October carried the average for that month to \$3.96.

The average price of cattle slaughtered under Federal inspection during the first 8 months of 1934 was about \$4.62 per 100 pounds, compared with \$4.28 in the corresponding months of 1933 and \$5.17 in the same period of 1932. The average price of slaughter calves in the first 8 months of the present year was \$4.69, compared with \$4.71 in the same months of 1933 and \$5.30 in the corresponding months of 1932. Although the average price of cattle was higher than in 1933 and that of calves was about equal to that of a year earlier, there was a material increase in slaughter supplies of both cattle and calves, and the total amount paid for such stock slaughtered under Federal inspection in the first 8 months of 1934 (Government purchases excluded) was about \$315,000,000 compared with \$250,000,000 in the corresponding months of 1933.

In view of the probable sharp curtailment in slaughter supplies of cattle and other meat animals during 1935, the general level of cattle prices next year is expected to be considerably higher than in 1934. The rise over the 1934 level is likely to be relatively greater in the prices of low-grade cattle, especially in the second half of the year, than in prices of the better grades.

Since there may be fairly large market supplies of short-fed cattle in the first quarter of 1935, prices of these kinds during that period, although expected to be higher than a year earlier, may not be enough higher to offset the greatly increased cost of feeds. During the late spring and summer supplies of all grain-fed cattle are expected to be unusually small, and a larger-than-usual seasonal advance in prices of such kinds is expected to occur. The level reached by midsummer is expected to be fairly well maintained until late fall, with the better grades of heavy cattle probably commanding a substantial premium over similar grades of lighter weights.

PRODUCTION OUTLOOK

Although total cattle numbers, by the end of 1934, may be reduced to about the level of 1928, there will be wide variations in the relative amount of the reduction in different States and regions. In some States it is expected that there will be little decrease, and in some an actual increase may be shown. In other States the numbers may be reduced 50 percent or more. Usually when cattle numbers decrease from the peak of a cycle the reduction is fairly uniform among the States, and the proportion of the total in different areas is about the same at the bottom of the production cycle as it is at the top, except as there has been a continuing trend for the number of cattle in the area west of the Mississippi River to become an increasing proportion of the United States total.

It is to be expected that the North Atlantic, South Atlantic, and east South Central States will show little or no decrease and that individual States in these groups of States may show increases. The decreases in the east North Central States may also be small. The largest decreases will be in the west North Central (especially in the area west of the Missouri River), in the west South Central, and in the Rocky Mountain States. The total decrease in the Intermountain and Pacific States probably will be smaller than in the other areas where reductions occur, but in some States in these regions the reductions may be relatively large. Hence, with numbers east of the Mississippi River decreasing little, if any, and numbers west of the river decreasing markedly, the resulting distribution following these changes will be rather abnormal.

This unusual distribution of cattle numbers doubtless will be reflected in unusual relationships in the distribution of market supplies, in farm prices, and in trends of cattle numbers during the next few years. In the States where numbers have been greatly reduced there will be a marked tendency

during the next few years to restock, and yearly shipments of all kinds from such States will be relatively small and in-shipments relatively large. The local demand for all kinds of stock and breeding cattle will be good, and farm prices will be relatively high compared either with market prices or with farm prices in States in which there has been little reduction in cattle numbers.

If cattle prices are high relative to feed prices during the next few years, as seems probable, increases in numbers can be expected in all areas. This tendency to increase numbers further in the States where present numbers are large because of little reduction this year, may be encouraged and made possible if there is a considerable shift from grain production (both feed and food) to hay and pasture production as a result of production-control programs. This would result in a relatively high ratio of cattle numbers to feed-grain production in these areas. But expansion in these areas will be much less than in the areas in which numbers have been greatly reduced.

Even if slaughter of cattle and calves in 1935 should be much smaller than in any recent year, it is hardly probable that numbers would increase during 1935, in view of above-average death losses and the small calf crop to be expected. Numbers on farms January 1, 1936, therefore, are likely to be no larger, and may be smaller, than on January 1, 1935, and the upswing in the cattle-production cycle is not likely to get under way before 1936.

If prices of cattle advance materially in 1935 it is to be expected that imports of live cattle from Canada and Mexico, especially the latter, will increase sharply, since the high duty on cattle relative to cattle prices in this country has almost shut off such imports during recent years. Larger importations of canned beef and of frozen beef are also probable.

SHEEP AND WOOL

A sharp curtailment in the number of sheep in this country appears certain as a result of the severe drought. If range production and feed production this year had been normal, an increase in sheep numbers probably would have occurred. The lamb crop in 1935 will be reduced considerably and the smaller marketings of lambs next year, along with the decreased market supplies of other meat animals, probably will result in substantially higher lamb prices in 1935 than in 1934.

As a result of the expected reduction in numbers of stock sheep, the wool clip of 1935 will be the smallest in several years. The curtailment of wool manufacturing activity both in the United States and in foreign countries has caused declines in wool prices since early 1934. The level of domestic wool prices in 1935 will depend largely upon world wool production and prices and consumer demand for wool textiles in this country. Although the prospective reduction in wool production in the United States will tend to strengthen domestic prices next year, domestic stocks of wool are now large. Unless mill consumption during the remaining 5 months of the 1934-35 season (up to Apr. 1, 1935) shows a very large increase over the same period a year earlier, stocks at the beginning of the 1935-36 season will be much larger than at the beginning of the present season. This increase in stocks may largely offset any decrease in the 1935 domestic wool clip.

SHEEP AND LAMBS

SUPPLIES

The 1934 lamb crop, estimated at 29,339 000 head, was about 1 percent larger than the 1933 crop, but was slightly smaller than the 1932 crop and considerably smaller than the record 1931 crop. The crop was larger this year than last because of the increase in the western sheep States, since the crop in the native-sheep States was about 2 percent smaller in 1934 than in 1933.

The lamb crop in the 13 western sheep States totaled 18,780,000 head this year, an increase of about 3 percent from that of 1933. The 1934 crop was larger in all of these States except Texas and South Dakota. Because of the unfavorable feed conditions in much of the principal sheep area in Texas during the winter and spring, and short periods of severe weather during and after lambing, the 1934 lamb crop in Texas was reduced materially, being about 1,000,000 head smaller than the crop of 1933. Exclusive of Texas, the lamb crop in the western sheep States was about 1,500,000 head larger than last year. The number of lambs docked per 100 ewes (the percentage lamb crop) was

larger than in 1933 in all of the western sheep States except Texas and South Dakota and was equal to or above the 5-year (1929-33) average in all the States except the two named and New Mexico.

Breeding ewes in the Western States were in rather poor condition at the beginning of 1933-34 as a result of poor feed conditions during the fall. The winter was especially mild, however, and even though feed supplies were relatively short, sheep in most States came through the winter in fairly good condition. Weather during lambing, both early and late, was generally favorable and losses of lambs were relatively small except in Texas. Sheep losses in the winter and spring were also small considering the feed situation and were much smaller than the heavy losses in 1932-33.

Because of the early spring, new range feed made a fairly good start in most of the western sheep States and up to the middle of May prospects for a good grazing season were generally promising. Following that date throughout the summer, rainfall was much below normal and temperatures were excessive. As a result, the average condition of ranges in the Western States in the summer and fall months was the lowest in the 12 years in which range conditions have been reported. The average condition of sheep during the summer also was the lowest ever reported. Although recent rains have partially relieved the drought situation in some of the Western States, the outlook for winter feed in these States is very unfavorable.

In view of the serious feed situation, the Agricultural Adjustment Administration and the Federal Emergency Relief Administration are cooperating in the purchase of sheep (ewes over 1 year old) as a drought-relief measure in States most seriously affected. According to present plans about 5,000,000 sheep will be purchased in this way. By the end of October about 3,255,000 sheep had been bought for Government account in 18 States. Of this number, about 2,000,000 were condemned as unfit for food at the point of purchase and were destroyed. The remainder have been or will be slaughtered and the mutton obtained therefrom utilized for relief purposes. Such purchases of ewes will make possible the holding back of larger numbers of ewe lambs for flock replacements, and thus will tend to reduce the supply of lambs marketed below what otherwise would have been necessary. Nevertheless, it is probable that the total seasonal market movement of western lambs will be large despite the ewe-buying program.

The commercial slaughter of sheep and lambs during the first 6 months of the present crop-marketing year, beginning May 1, was about 7 percent smaller than the corresponding period last year. Because of a somewhat delayed movement of the native-lamb crop and the large early movement of feeder lambs into the Corn Belt, slaughter supplies of sheep and lambs for regular distribution during the next 2 months are expected to be larger than those of a year earlier. Lambs marketed in this period probably will be somewhat below average in weight and condition.

Although supplies of feed grains and hay in all the principal feeding States of the Corn Belt are very short, the movement of feeder lambs inspected through public markets into the Corn Belt was much larger from July 1 to the end of October than the total of the very small shipments during the same period in either 1933 or 1932. Shipments into the States west of the Missouri River were much smaller than last year, but there was a heavy movement into the States east of the Mississippi River and into Iowa and Minnesota.

In spite of the increased movement of feeder lambs from markets, the total number of lambs to be fed this year is expected to be somewhat smaller than last year. Direct shipments not going through markets into the western Corn Belt, which usually make up a large part of the total number fed in that area, are expected to be much smaller than last year. Lamb feeding in most of the important feeding areas in the Western States also is expected to be sharply curtailed. Because of the general shortage of range feed in the western sheep States this year the market movement of lambs was earlier than usual with a greater-than-average proportion of feeder lambs. Hence, it is probable that the proportion of western feeder lambs going through stockyard markets will be much larger this year than in the last few years. Shipments of feeder lambs into the Corn Belt during November and December are expected to be relatively much smaller than during the preceding 4 months.

PRICES

The downward trend in sheep and lamb prices which began in early 1929 was checked in early 1933. Considerable recovery occurred in May and June last year, but this upswing was followed by a seasonal decline from July to November. The improvement in lamb prices from November 1933 to May 1934 was very pronounced, the rise carrying the top prices of fed woolled lambs as well as those of spring lambs at Chicago above \$10 per 100 pounds. The average price of lambs slaughtered in the fed-lamb marketing season, December 1933 to April 1934, was \$8.05 per 100 pounds, compared with \$5.42 in 1932-33, and it was the highest seasonal average for fed lambs since 1930-31. The average price of Choice spring lambs at Chicago in May 1934 was \$10.62, compared with \$7.44 in May a year earlier. Since early June, however, lamb prices have weakened considerably and prices from July through October have been below those of a year earlier. The average price of lambs at Chicago during the last week of October was \$6.62, compared with \$7 for the corresponding week in 1933.

Prices of slaughter ewes declined to a record low level in 1931 and 1932, but made some recovery in the first half of 1933. In late 1933 and early 1934 prices of ewes advanced sharply and in March 1934 they were at the highest level since early 1930. Since early May, however, prices of slaughter ewes have declined greatly and in late October they were only slightly higher than the record low prices of 1932. Market prices of breeding ewes, especially good-mouthed young ewes, have strengthened considerably since July.

Much of the advance in sheep and lamb prices in 1933 was the result of the sharp rise in wool prices, since wholesale and retail prices of dressed lamb and mutton did not advance materially until early 1934. The weakness in sheep and lamb prices in recent months has been associated with lower prices for wool as well as for dressed lamb.

In 1935 supplies of all meats, including lamb, are expected to be sharply curtailed, and lamb prices probably will average materially higher than in the present year. In view of the decrease in lamb feeding in prospect for the coming winter, some advance in fed-lamb prices over the relatively high levels of last winter and spring is expected.

PRODUCTION OUTLOOK

In view of the liquidation of sheep occurring because of the drought and of the poor condition of sheep in many areas, it appears probable that sheep numbers by the end of 1934 will be reduced sharply in most of the western sheep States and in some of the native sheep States. Despite this prospective reduction in numbers, the number of sheep and other livestock remaining in many areas in the Western States and in some areas of the Corn Belt will be large relative to the very short supplies of feed available.

Even with fairly favorable weather conditions next winter ewes in the Western States where feed is short will be in poor condition at both breeding and lambing seasons, and the 1935 lamb-crop percentage will be below average. The number of death losses will depend largely upon the severity of the winter, but even under favorable weather conditions such losses will be relatively large, thus further reducing sheep numbers. It is probable therefore that the 1935 lamb crop will be the smallest in several years.

If 1934 had been a favorable year for feed production, it is highly probable that the number of stock sheep would have been increased during the year and the downward trend in sheep numbers which began in 1931 would have ended. Under present conditions this downward trend is likely to be continued for at least 1 year longer, and the low point in numbers will be much below what it would have been except for the drought.

WOOL

DOMESTIC AND FOREIGN PRODUCTION

Preliminary estimates of wool production in several important producing countries point to a world wool production in 1934 little different from that of 1933, but smaller than the 5-year average of 1928-32. Small increases in the 1934 production are now indicated in Australia and New Zealand. A decrease is estimated for the United States and the Union of South Africa, with a still

further decrease in prospect for both countries in 1935. Sheep numbers apparently were still at a relatively high level in most countries of the Southern Hemisphere at the beginning of 1934 except in South Africa, but reported smaller lamb crops in that country and in Australia in 1934 indicate a reduction in numbers by January 1, 1935.

Production of wool shorn or to be shorn in the United States in 1934 was estimated at 355,000,000 pounds, which is about 3 percent smaller than that of last year, but 1 percent larger than the 5-year (1929-33) average production. The decrease in wool production this year was largely the result of the sharp reduction in Texas. Production in most of the other western sheep States was larger than that of last year. Wool production in the native-sheep States in 1934 was a little larger than in 1933.

It is now estimated that the Australian wool clip for 1934 will be about 990,000,000 pounds, grease equivalent, compared with 950,000,000 pounds in 1933 and the record production of 1,062,000,000 pounds in 1932. Wool production for 1934 in the Union of South Africa was recently estimated at 245,000,000 pounds, compared with 274,000,000 pounds in 1933 and the record production of 316,000,000 pounds in 1932. The decrease this year is chiefly due to the sharp reduction in sheep numbers. A recent estimate of sheep numbers in New Zealand indicates that the wool clip in that country in 1934 probably will be slightly larger than in 1933. The 1933 clip was a record one, being officially estimated at 300,000,000 pounds. The increase over 1932 was the result of a heavier fleece per sheep, a record lamb crop, and a later slaughter season. Estimates of wool production in Argentina and Uruguay for 1934 are not yet available, but reports from Argentina indicate that weather and grazing conditions for the season thus far have been relatively favorable for wool production, and that production will be about the same as it was last year. Stocks of wool at selling centers in the Southern Hemisphere at the end of September 1934 were somewhat larger than those of a year earlier, but they were smaller than the stocks 2 years earlier.

World wool production, including Russia and China, in 1933 was estimated at 3,457,000,000 pounds, which was a decrease of 5 percent compared with that of 1932 and 6 percent compared with the 1928-32 average. Average production for the 5 years 1921-25 was only 3,042,000,000 pounds. Production in Russia, where wool is mostly of the coarse carpet type, has been declining since 1929. World production, excluding Russia and China, in 1933 was estimated at 3,241,000,000 pounds, which was also 5 percent smaller than that of 1932. Over 60 percent of this latter total was produced in countries of the Southern Hemisphere, 13 percent in the United States, and most of the remainder in European countries.

On January 1, 1934, the number of stock sheep in the United States was slightly larger than at the beginning of 1933, but the total number of sheep and lambs was slightly smaller. In Australia, sheep numbers increased steadily from 1928 to 1933. Conditions were reported as unfavorable for the autumn and winter (March-June) lambing season, this year, and a decrease is expected in the 1934 lamb crop. Recent reports from New Zealand indicate that sheep numbers in that country increased somewhat during last year, after having declined steadily from 1930 to 1933. Because of the prolonged and severe drought in South Africa during 1932 and 1933, sheep numbers there have declined considerably from the 1931 record number. A decrease of about 3 percent in the number of sheep in European countries during the last year is indicated by such estimates as are now available.

CONSUMPTION, STOCKS, TRADE

Activity in the United States wool-manufacturing industry declined steadily in the latter part of 1933 and the first half of 1934, after the great rush of activity in the summer months of 1933. Consumption of combing and clothing wool by United States mills declined from 146 percent of the 1923-29 average in June and July 1933 to 55 percent in June 1934. Little change in activity was reported in July and August, but in September the strike of textile workers and the closing down of some mills because of a lack of orders resulted in a further decrease in consumption in that month. In the first 9 months of 1934 consumption of combing and clothing wool by manufacturers reporting to the Bureau of the Census, comprising a major portion of the industry, was about 35 percent smaller than in the same months of 1933 and was smaller than in the same period of any recent year. Consumption for the entire

year 1934 will probably be as small as, or smaller than, for 1932, the previous year of lowest consumption in the 15-year period for which statistics are available.

The low activity in the wool-manufacturing industry in 1934, together with the lower prices for wool and the increase in consumer buying power, probably has resulted in a considerable reduction in the heavy stocks of semimanufactures and finished goods which had accumulated by the end of 1933. Mill consumption of wool in 1935, therefore, will probably be larger than in 1934, thus continuing the tendency toward a 2-year cyclical movement which has prevailed in the wool industry during late years. The extent of the increase in consumption will depend partly upon developments in the general economic situation and partly upon the extent to which wool waste, recovered wool, and wool substitutes are used to displace unmanufactured wool in the wool-manufacturing industry. It seems probable that the decline in the output of wool-textile materials in the last year has not been so great as the decline in wool consumption would indicate, since the higher wool prices apparently resulted in a much larger use of recovered wool and wool substitutes than in the years 1930-32, when prices of wool were low.

Stocks of wool, both foreign and domestic, but excluding carpet wool held by dealers and manufacturers in the United States, on June 30, 1934, amounted to 349,117,000 pounds, in condition reported, which is estimated at 382,915,000 pounds grease equivalent. Stocks of wool tops were reported at 31,348,000 pounds, estimated as the equivalent of about 95,000,000 pounds of grease wool. About two-thirds of the stocks of wool as reported were held by dealers and one-third by manufacturers. These figures do not represent the total wool stocks of the country as of June 30, since they do not include wool still in the hands of growers and stored in warehouses in the wool-producing States. Such stocks were larger than a year earlier and have been estimated as being more than 100,000,000 pounds. The total grease equivalent of wool and tops, but excluding noils, in all positions apparently was about 575,000,000 pounds. Although comparable figures on stocks of wool are not available for earlier years, the total as reported and estimated at the end of June this year appeared to be large both in relation to domestic production and to probable consumption requirements in this country. Stocks of wool held by dealers and manufacturers at the end of September were somewhat larger than at the end of June, but this increase probably was largely offset by a decrease in stocks of wool held in the wool-producing States.

The proportion of the 1934 clip taken by manufacturers up to October 1 was very small and in sharp contrast with the large proportion of the 1933 clip taken to the corresponding date of last year. Likewise the movement of this year's clip into consuming centers to October 1 has been relatively small. Receipts of domestic wool at Boston from April 1 to September 30, 1934, of 144,000,000 pounds were equal to about 41 percent of estimated shorn-wool production in 1934. In the same months of 1933 receipts at Boston equaled 59 percent of the production, and for those months in the 5 years, 1929-33, receipts averaged about 55 percent of the shorn-wool production. During the same 5-year period the average proportion which annual receipts (April to March) of domestic wool at Boston represented of the estimated shorn-wool production was 67 percent.

United States imports for consumption of combing and clothing wool in the first 9 months of 1934 were 18,082,000 pounds compared with net imports of 31,373,000 pounds in the first 9 months of 1933. In view of the low mill consumption and the slow market movement of the domestic clip in 1934 it is probable that stocks from the 1934 clip still available for manufacture at the end of 1934 will be large and that imports for the 1934-35 season will be small.

Conditions in the wool industries in foreign countries in the last year have been somewhat similar to conditions in the United States. Wool-manufacturing activity in Europe was relatively high through most of 1933, but the situation in the wool industry became very unsettled during the early part of 1934. The uncertainty in European countries has been largely a result of a partial prohibition of imports into Germany, Italian import-license requirements, and restrictions on imports of manufactured goods in several other consuming countries. These difficulties have resulted in a decline in trading and manufacturing activity in European countries since early 1934. Imports of wool in the periods so far reported for 1934 have been considerably smaller than in the corresponding period of 1933 in all of the principal European wool-consuming countries

except Germany. Relatively large imports of wool into Germany from February to May this year probably were partly the result of the anticipation of the later restrictions on imports into that country. Imports into Germany showed a marked decline after May, and imports for the year will probably be considerably smaller than in 1933. Stocks of tops, however, are large in all countries with the exception of Germany, where replacements are difficult because of the restrictions on imports of wool and wool products.

PRICES

Prices of domestic wool in the Boston market reached the high point of the 1933-34 advance in February 1934. In the 12 months from April 1933 to March 1934, little reaction occurred in wool prices, despite the fact that declines in prices of other important commodities occurred during this period. Partly because of the low rate of wool-manufacturing activity thus far in 1934, price declines on most grades of wool have occurred in recent months. The weakness in foreign markets after January also was a contributing factor in the domestic price decline. Prices for strictly combing territory wools in the Boston market in October were 13 to 20 percent below the February high point and were 8 to 15 percent below prices in October 1933. The decline on fleece wools since January 1934 has been somewhat greater, being about 20 percent on strictly combing fine and half-blood wools and 30 percent on wools grading 46s to 56s. Prices of strictly combing territory wools at Boston averaged 76 cents a pound scoured basis for 64s, 70s, 80s, and 56 cents for 46s in October 1934, compared with 87 cents and 65.5 cents respectively at the January-February 1934 high points. In February 1933, before the price rise got under way, the average prices of these wools were 44 and 30.2 cents a pound respectively. Ohio and similar fleece wools of strictly combing order were quoted at 26.5 to 30 cents a pound grease basis in October 1934 compared with 35.5 to 42.5 cents in January, and 16.5 to 19.7 cents in February 1933. Direct sales of new-clip wool have been reported during the present season at prices substantially lower than the quotations on similar spot wools at Boston.

During October, trading on the Boston market increased considerably after several months of inactivity. This greater activity resulted chiefly from some improvement in the goods market and recent large Government contracts for wool materials. Increased buying of wools in October also was reported in some foreign selling centers.

Declines in wool prices in foreign markets since January have been greater than the declines in the domestic market and since April the margin of domestic prices over foreign prices has widened considerably. Prices in foreign markets showed some improvement in October, but the advance was not reflected in quotations on foreign wool in terms of United States currency because of the increase in the exchange value of the dollar in terms of the English pound.

The trend of domestic wool prices during the remainder of the 1934-35 season will depend largely upon developments in the domestic wool-manufacturing industry and on changes in prices in foreign markets in terms of United States currency. In view of the large supplies of domestic wool still available and the present wide margin between domestic and foreign prices, no material increase in domestic prices is expected until there is a marked improvement in the wool-manufacturing situation.

MOHAIR

Most of the apparent improvement in the mohair situation at the end of 1933, as indicated by the sharp advance in prices, disappeared during 1934, and the outlook at present is not much more favorable than it was 2 years ago. Consumption of mohair in 1934 has been below that in 1933, with a resulting further increase in stocks which are now apparently of record size. Little of the 1934 production has been sold, and prices offered at present are much below those prevailing a year ago. Feed supplies in the principal goat-raising States are very short, and death losses this winter may be large.

SUPPLIES

Domestic supplies of mohair have continued to increase during 1934, and the present supply in the hands of manufacturers, dealers, and growers is the largest ever known, probably in excess of 40,000,000 pounds. This quantity is

equivalent to 3 years' needs at a relatively high rate of consumption. A year ago it was estimated that the accumulation of 1931 and 1932 mohair in the hands of manufacturers at the beginning of 1933 was between 30,000,000 and 35,000,000 pounds. Production in 1933 was estimated in March of this year at 15,895,000 pounds. In the latter half of 1933 more than 3,000,000 pounds of mohair was imported, most of which is still held in bond. A liberal estimate of consumption in 1933 is about 14,000,000 pounds, so that stocks of domestic mohair in all positions, but largely in the hands of manufacturers and dealers, at the beginning of 1934 were probably 2,000,000 pounds larger than at the beginning of 1933. Estimates of production in 1934 have not yet been made, but reports from Texas indicate that the clip in that State was probably 2,000,000 pounds smaller than in 1933. The total United States clip was possibly under 14,000,000 pounds; most of this is still in the hands of growers or in local warehouses. Mohair consumed in 1934 has been very largely from supplies on hand at the beginning of the year.

CONSUMPTION

Domestic consumption of mohair increased markedly during the period from April to November 1933 and then dropped off sharply. During 1934 it has not made any sustained recovery, and since late summer consumption has been at a very low ebb. Although definite information as to the volume of consumption is lacking, it would seem that the estimate of 8,000,000 pounds consumed during the first 10 months of 1934 is a liberal one. The woolen industry has continued to use a fair quantity of mohair during 1934, but there has been a smaller consumption of mohair in the manufacture of strictly mohair fabrics. The manufacture of automobile linings has held up fairly well, but this has tended to be offset by a decrease in furniture upholsterings.

PRICES

Prices of mohair made a marked advance during 1933. The average of monthly quotations on medium sorted mohair at Boston went from 17.5 cents a pound in March to 48.5 cents in October. Prices paid for the 1933 spring clip of mohair in Texas were 12 to 13 cents, but prices for the fall clip reached 45 cents. Boston quotations during the early months of 1934 were maintained at the late 1933 levels, but as consumption and demand fell off these gradually declined and the monthly average of quotations for sorted medium mohair in September was 35.5 cents compared with 48.5 cents in January. To a considerable extent the quoted prices since midsummer were only nominal, since very little mohair was being sold, and they were much above the prices that could have been obtained for substantial quantities. In late September a sale of a substantial quantity was made at much below the quoted prices, and at present there is little certainty as to what is a quotable price.

As a result of the high prices obtained for the 1933 fall clip, Texas growers anticipated correspondingly high prices for the 1934 spring clip. Buyers considered the asking prices entirely too high and as a result practically no sales of Texas spring mohair were made. Limited quantities of New Mexico and Arizona mohair have been bought at prices to growers ranging from around 35 cents early in the season to 25 cents in the summer. Recently sales of Texas mohair by growers for as low as 15 cents and kid hair at 25 cents have been reported. Practically all of the 1934 Texas spring and fall clips are still in the State, either in warehouses or on ranches.

FOREIGN SITUATION

Production of mohair in both Turkey and South Africa in 1934 was smaller than in 1933, with prospects of further reduction in 1935. Quantities available for sale (unsold carry-over plus current production) at the beginning of the 1934-35 season of about 23,100,000 pounds was about 1,500,000 pounds smaller than at the beginning of the 1933-34 season. Prices of mohair in these countries advanced sharply in 1933. The average price of mohair exported from South Africa in the 1933-34 season was about 13 cents a pound compared with an average of 6 cents for the 1932-33 season. Since July this year prices in South Africa have made a rather sharp drop.

Much of the accumulated mohair in Turkey at the beginning of 1933 went to Russia but Germany has taken most of the exports this season. The heavy

German purchases this year were due in part to the restrictions on imports of wool but to a larger extent were due to the fact that Germany had a considerable trade balance blocked in Turkey by prevailing exchange restrictions and the mohair purchases were made to recover a part of this balance.

OUTLOOK

Production of mohair in this country apparently has exceeded consumption for each of the last 4 or 5 years, with a resulting growing accumulation of stocks, which at present are of record proportion. Until these stocks are reduced to about a year's normal consumption requirements any definite improvement in the mohair situation seems improbable.

The feed situation in most of the important Angora-goat States is very serious as a result of the drought. As a part of its drought-relief program, the Government is buying Angora goats (does over 1 year old) in the drought areas. Purchases of about 500,000 head have been authorized and up to October 12 about 17,000 head have been bought. With mohair prices low, and feed supplies very short and high in price, it is not improbable that death losses of goats during the coming winter and spring may be heavy, especially if the winter should be severe. Even if goat numbers should be materially reduced as a result of governmental buying and heavy death losses, the present large stocks of mohair will continue as a weakening factor to price recovery.

HORSES AND MULES

Should colt production continue to increase in 1935 and 1936 as rapidly as in 1933 and 1934, the low point of the long downward trend in the number of all horses and mules on farms will be reached about the end of 1936, and the low point in the number of animals of working age will occur about 2 years later. During the remainder of this period of decreasing numbers of horses and mules an increase in the use of mechanical power may be necessary to meet farm-power requirements. The extent of this increase will undoubtedly influence future prices of horses and mules, but with the relatively large number of old animals now on farms, and consequently the relatively high death rate, demand for horses and mules is expected to strengthen substantially during the next few years.

SUPPLIES

The decline in numbers of horses and mules on farms, which has been under way for about 15 years in the case of horses and 9 years in the case of mules, continued through 1933 and 1934. The estimated number of horses on farms January 1, 1934, or 11,942,000, was 2.1 percent smaller than a year earlier and about 40 percent smaller than on January 1, 1920. The number of mules January 1, 1934, or 4,931,000, was 2 percent smaller than a year earlier and 17 percent smaller than the peak number on January 1, 1925. The numbers of each on January 1, 1935, doubtless will show a further decrease, but the decreases during 1934 will probably not be so large as during 1933.

Although numbers of both horses and mules on farms will probably decline for several years yet, it is expected that the decrease from present numbers until the low point is reached will be relatively small. Until the end of 1932 the decline in numbers was a result of the decrease in the number of animals of working age and was accentuated by a steady decrease in the number of colts raised each year. The downward trend in colt production was apparently checked in 1932, and in 1933 there was an unmistakable increase. The number of horse colts under 1 year old on January 1, 1934, was estimated at 526,000 head, an increase of 15 percent over the number a year earlier and the largest number since January 1, 1927. The number of mule colts under 1 year old of 83,000 head was about 9 percent larger than a year earlier. Such information as is available indicates that there has been a further expansion in colt production in 1934 and the number of horse colts on January 1, 1935, will probably be the largest since 1924 and the number of mule colts the largest since 1929. If colt production continues to increase in 1935 and 1936 as rapidly as in 1933 and 1934, the number of colts raised in 1936 will probably at least offset the death loss and other disappearance of horses and mules from farms in that year and at the end of 1936 numbers will have reached the low point of the long downward trend.

It is evident, however, that the number of horses and mules of working age will continue to decline for a longer period, since at the time the number of colts raised offsets death losses and other disappearances, it will still be at least 2 years before the time when these colts will have reached working age. Hence, during the next 4 or 5 years agriculture in this country will have to adjust itself to a further decrease in available animal power.

DEMAND

During the first 8 months of 1934 the demand for horses and mules was generally good. Receipts of horses at public stockyards were about 63 percent larger, and of mules about 36 percent larger, than during the first 9 months of 1933. On September 15, 1934, the average farm price of horses was \$79 per head compared with \$69 on the same date a year earlier, and the prices of mules stood at \$94 per head in September 1934 as against \$77 in September 1933.

At some markets broad demand characterized the trade all through the year, even during the summer season when dullness ordinarily develops. Demand for cotton mules held up well and the outlet for horses in the East expanded. Prices at midwestern markets reached the high point in March when values were about \$25 per head above those of a year earlier. October prices were from \$10 to \$15 above prices of October 1933. More interest in colts, especially young animals from weanlings to 4 or 5 years old, is now manifest than at any time in many years. Reports indicate that in some cases colts from 1 to 3 years old and in good condition are outselling usable horses 7 to 8 years old. The present trade demand is for mares, which are generally selling at a considerable premium over work geldings. Until 2 years ago the opposite was true, the great majority of horse buyers then preferring geldings.

GENERAL PROSPECTS

There apparently has been a rather marked change in sentiment among farmers toward horse and mule production. During the decade from 1920 to 1930 the prices of horses were very low in relation to the prices of other livestock and for some kinds of horses the only outlet was sale for slaughter at very low prices. But since 1930 the situation has been the reverse and horse and mule prices, reflecting the growing shortage, have tended to strengthen while prices of all other kinds of livestock were declining.

Because of the greatly reduced numbers of stallions and jacks and of suitable brood mares the start toward increased colt production was necessarily slow. But once under way the increase may be expected to gain momentum rather rapidly. Since the number of animals of working age is certain to decrease further each year for some years, prices of work animals are expected to advance further and to stimulate interest in colt raising. If the trend of agricultural adjustment over the next few years is toward decreased food-grain and feed-grain production and increased acreage of pasture and hay, this may also tend to stimulate colt production.

The city and industrial-market outlet for surplus horses and mules has largely disappeared and there is no likelihood of its ever coming back. There is little reason to expect that the use of mechanical power on farms will be greatly reduced from what it has been during the last few years. Hence, it is almost certain that agriculture in this country will not again have use for a number of horses and mules anything like so large as the number on farms 15 years ago. It is probable that the present number would be ample for present needs if the animals were of better type and were well distributed among the various age groups, instead of so large a proportion being in the old-age groups (12 years old and over) which results in relatively heavy yearly death losses as well as reduced power efficiency. The present number of horses and mules 2 years old and over is about 15,500,000. A number of colts raised each year of between 850,000 and 900,000 would be about sufficient to maintain the present number of work stock. The number raised in 1933 was estimated at 609,000.

The number of work stock that will be needed on farms during the next few years will depend upon the extent to which mechanical power is used and upon the acreage of crops grown. During the last 2 years demand for animal power has been strengthened by low feed prices, and by the financial situation in agriculture, which has made it difficult for farmers to pay for replacements, repairs, and fuel for motor machinery. Because of reduced feed supplies and higher feed prices in 1935, some farmers may resort to a greater use of mechanical

power, and during the next few years some expansion in the use of tractors and motor trucks may be necessary to offset the decreasing numbers of work stock, since the decrease probably will not be halted before 1937 or 1938. This necessity may develop in spite of reductions that may occur in crop acreage, for it is unlikely that such reductions will more than offset the reduction of power available on farms, resulting from declining numbers of horses and mules, and from the small purchases of mechanical-power equipment in recent years.

It seems probable that farmers will not be able to replace their work stock a few years from now at prices like those now prevailing. But those who are producing or planning to produce work animals as an important source of income should follow closely the trends of the next few years in colt production and in the use of mechanical power by farmers, in order to adjust their production to probable future demand. Those farmers who produce horses as a side line and whose investment in horses is largely for power rather than for reproduction purposes can adjust their breeding operations much more economically to the outlook for horses. Many farmers who usually have an abundance of cheap roughage are well situated for the economical production of a few colts to sell or to replace worn-out work animals. Young mares that are used for work, and at the same time are used to produce colts, form the economical basis for work-stock replacement.

DAIRY PRODUCTS

The shortage of hay and grain makes the outlook for dairying unfavorable for the current feeding season. Prices of hay and grain are now higher in comparison with the price of butterfat than in any previous fall since the drought of 1911, and throughout the winter the price of feed is expected to continue unusually high in comparison with the prices of dairy products. After new grass and new grain are available next summer, dairymen should benefit for a year or more from a return to a more favorable relation of the price of dairy products to the price of grain.

A low level of milk production this winter is certain. Each month from November 1933 through August 1934 both total milk production and the quantity of dairy products manufactured have been below production in the same month of the previous year. Still lower levels of production are expected to prevail during the coming winter and spring. Milk production is likely to continue rather low until the summer of 1936 at least, for until a new corn crop can be harvested the shortage of grain is expected to result in rather light feeding and in lower-than-average milk production per cow unless weather conditions or other factors are unusually favorable. The number of milk cows is now being rapidly reduced, fewer heifers are being raised, and the extensive drought damage suffered by pastures, meadows, and new seedings will tend to restrict expansion of dairying during 1935. The current shift toward having more of the cows freshen on pasture in the spring also decreases the prospects of heavy winter production a year hence.

Until new feed crops are available prices of dairy products are likely to average higher than during last season but the possibility of importing butter at prices very little above those now prevailing is expected to prevent any great increase in the price of butter and will tend to limit increases in the prices of other dairy products.

MILK COWS AND FARM PRODUCTION

After increasing since 1928, the numbers of milk cows are now decreasing and some further decrease is in prospect. On June 1, 1934, the number of milk cows on farms was only a fraction of 1 percent larger than on June 1, last year. This was the smallest yearly increase shown since 1928, and compares with a yearly increase of 3.1 percent for 1933 shown on January 1, 1934, when the number of cows kept for milk (including 2-year-old heifers) was estimated at 26,062,000 head.

Since June 1 continued heavy marketings through usual channels and purchases of cattle by the Government in the drought areas have resulted in more than the usual seasonal decrease in milk-cow numbers. On October 1, judging from the reports received from crop correspondents, the number of milk cows on farms was 2 to 3 percent less than the number a year earlier. By late winter the number of milk cows will probably be at least 4 percent below the number

last year. As the number of heifers being raised has been sharply reduced, the number of milk cows is likely to decline somewhat further during the next year or two unless the rate of culling is abnormally low. The reduction this year will be most marked in the drought area, where the extreme shortage of feed grain and hay makes it necessary to reduce numbers of all classes of live-stock if heavy losses this winter are to be prevented. Much of the important butterfat-producing territory has been affected by drought this year. Outside the drought areas the reduction will be more gradual, although it may be hastened by sharply higher feed costs.

During the last half century the number of cattle has tended to increase periodically, the peak of numbers being reached about every 15 years. Numbers of milk cows have increased rather generally during this period, but the rate of increase has been most rapid when all cattle numbers were increasing. Up to last spring numbers had been increasing steadily for about 6 years. It is probable that they will now decrease for at least another year. Current reports, taken early in June, before the drought became so widespread, when compared with similar records for recent years, showed for nearly all States a sharp reduction in the number of heifers being added to the milking herds. The proportion of spring-born calves reported as being saved for milk cows was also smaller than shown by similar reports in any year since 1930. Ordinarily the proportion of the heifers raised is lowest when the price of milk cows is low in comparison with the prices of grain and hay. On September 15 the average price of milk cows was very much lower in comparison with both hay and grain prices than on the same date in any of the previous 23 years for which records are available. In comparison with September 1932, the price of milk cows was substantially lower and the price of feed was twice as high. Probably the number of heifer calves saved for milk cows will continue low until at least next fall. Calves saved then would not come into production as cows until late in 1937 or early in 1938.

Part of the increase in the number of milk cows in the last few years came from an increase in the use of beef cows and dual-purpose cows for milking, particularly in the butter-producing area stretching from North Dakota into Texas and eastward through the western and central portions of the Corn Belt. The forced selling of cattle in this general region particularly, and to a less extent in other areas, is reducing the number of such cows which can be milked.

Marketings of cows have increased substantially during the past year, owing largely to the accumulated surplus of cattle and to the drought, with its accompanying feed shortages, rapidly increased feed costs, governmental purchases, and distress marketings. Marketings are likely to continue heavy until midwinter or even later, and will depend somewhat upon the severity of the winter.

Emergency purchases of cattle and calves by the Government up to October 12, 1934, amounted to 6,574,000 head. Of these about 1,000,000 head had been condemned as unfit for shipment and 4,000,000 had been shipped either to packing plants or to grazing areas. About 24 percent of the purchases were classed as calves, indicating nearly 1,600,000 head. In each month of this year the numbers of cows and heifers slaughtered under Federal inspection have been larger than in the corresponding months of 1933. Exclusive of those slaughtered on Government account, a total of 2,978,000 head of cows and heifers was slaughtered under Federal inspection in the first 8 months of 1934, compared with 2,348,000 head during the same period last year. The number of cows and heifers included in the Government purchase of cattle cannot be determined at this time, but, judging from such rough approximations as can now be made, the disposal of cows and heifers by the end of the year may total as many as 5,000,000 head above disposals in 1933. Definite statistics on breed are not available, but the opinions of those at stockyards indicate that a considerable number are of dairy breeding.

Thus far the removal of cows purchased by the Government had not greatly affected total milk production. Most of the cows sold were dry or were producing little milk and so far their disposal appears to have been more than offset by the early sale of sucking calves. Slaughtering of calves under Federal inspection, including those slaughtered on Government account, increased from 3,626,000 head during the first 9 months of 1933 to 5,741,000 head during the same period of 1934.

Through congressional action that appropriated additional funds for cattle-disease control, tuberculosis-eradication work has been speeded up in several States. By the same action the United States Department of Agriculture is authorized to cooperate with the States in the elimination of cattle that react to the blood test for Bang's disease. This will make it possible for cattle owners to benefit from having clean herds and at the same time receive indemnities for diseased animals eliminated. This work on Bang's disease is already under way in all but a few of the States. Although tuberculosis and Bang's disease eradication will reduce numbers in local areas, it will have but slight effect during the next 6 months in reducing milk-cow numbers in the country as a whole.

MILK PRODUCTION

Total milk production on farms increased from 98,782,000,000 pounds in 1929 to 102,309,000,000 pounds in 1933, an increase of less than 4 percent in the 4 years. During this period the number of milk cows on farms increased over 13 percent. Milk production per cow has decreased each year since 1929 owing to various causes, chiefly less intensive feeding, less culling, and inclusion of more dual-purpose and beef cows in the milking herds. During 1933 production averaged 4,178 pounds compared with 4,309 pounds in 1932, a decrease of about 3 percent. For the first 8 months of 1934, milk production per cow on the 1st of each month was below production at the same period last year, ranging from about 9 percent below on February 1, following a period of low butterfat prices, to 2 percent below last year on July 1. This low production per cow was largely the result of increased feed costs, shortages of grain and hay in many areas with the accompanying low rate of grain feeding, and poor pastures. From December 1933 until May 1934 production was also reduced by the increased proportion of the milk cows that were dry because they were due to freshen on pasture in the late spring and early summer months. Pasture conditions during the last season averaged the lowest on record. Usually grain feeding is increased when pastures are poor, but such records as are available indicate that this year the quantity of grain and concentrates fed per milk cow has been no heavier than usual during the pasturage season, except in the northeastern fluid-milk area, where the rate of feeding has been heavier than in any of the last three summers. During the recent months, milk production per cow in this area has been higher than last year and the number of milk cows on farms appears to have been well maintained there. In the Pacific Coast States, milk production per cow during most of the first 8 months averaged above last year, owing to an early season and better pastures, but in recent months pastures there have declined and production has decreased.

In most of the areas outside of the Northeast and West, production per cow has been below last year until the last 2 or 3 months and is still much below last year in most of the drought area. On September 1 and October 1, however, production per milk cow in the United States was reported slightly higher than on the same dates last year, notwithstanding the very low production in the severe drought area. In the South, east of the Mississippi, this favorable showing was due to good pastures. In the central and northeastern areas, the higher production per cow may have been due in part to the marked improvement in pastures, to the close culling of low-producing cows, to the early sale of sucking calves, and to the early feeding of green corn; but the principal cause appears to have been the small proportion of the cows that were dry or nearly dry because they were due to freshen in the late fall months. For the country as a whole the proportion of milk cows reported dry on October 1 was the lowest that has been reported on that date during the 10 years for which comparable records are available. The proportion reported dry was particularly low from New Jersey west to Kansas and the Dakotas. This shifting in the season of freshening is one factor in the situation that is most difficult to measure. All signs seem to indicate that a shift away from late-fall freshening and toward increased May and June freshening has been taking place since the middle of 1932, reversing the trend toward fall freshening that was in evidence during the previous 4 years. The present shift seems a natural adjustment to higher-priced grain as compared with prices of dairy products, and a season when winter prices were unfavorable as compared with summer prices.

But this increased production per cow on September 1 and October 1 was not enough to offset the decrease in milk-cow numbers compared with last year, and total milk production on these dates was below the same period last

year, as has been the case in almost all other months in 1934. Total production during the first 9 months of 1934 has apparently been around 3 percent below production in the same months of 1933.

The decrease in the number of milk cows on farms, the decrease in fall freshening, the acute scarcity and high price of grain feed, and the necessity of substituting straw and fodder for part of the usual hay ration all point to a material reduction in milk production this winter below production in the winter months of last year. However, in calculating the effect of the feed shortage on commercial deliveries of milk and cream this fall and winter, it must be remembered that this season calves will probably be weaned earlier than in any recent year. The quantity of butter made on farms has also been reduced during recent months owing to the very low price received for such butter as compared with the price received for butterfat.

Supplies of fluid milk and cream required for city use are likely to be maintained, and the effect of reduced total milk production will be felt principally in the case of manufactured dairy products. In the butterfat-producing areas of the western Corn Belt a very low level of production during the late winter months seems inevitable and unless prices of dairy products rise materially many dairymen elsewhere will have difficulty in obtaining their usual supplies of feed.

FEED SUPPLY

By far the most important factor on the supply side of the dairy situation for the next few months is the feed shortage and the geographic distribution of the limited supplies of grain and roughage.

Even if farm and commercial stocks of grain next June are reduced far below the lowest point in recent years, feed imports more than doubled, wheat feeding increased, and various other adjustments made, the total quantity of grain, mill feeds, and concentrates available for feeding livestock during the 12-month period ending July 1, 1935, can hardly exceed 60,000,000 tons and may be several million tons less. Compared with this, about 87,500,000 tons were fed last year and an average of about 96,000,000 tons were fed annually during the preceding 9 years for which comparable figures are available. Supplies still remaining and available for the winter-feeding period may be relatively even shorter than these figures indicate, for many farmers appear to have been feeding at a more liberal rate than can be maintained with the supplies in sight.

As a result of this shortage the number of animals on farms is being rapidly reduced. By November the number of meat animals is expected to be 20 percent lower than at the same time last year, but even with this reduction the feed of the remaining livestock will have to be greatly reduced.

The shortage of roughage presents a serious problem in some areas, but from a national standpoint the situation is not so extreme, because millions of acres of corn which failed to produce ears were salvaged as fodder. There still will be more than the usual supply of silage but the quantity of hay available for feeding during the current feeding season is now estimated at 60,500,000 tons, compared with about 77,700,000 tons fed last season and an average of nearly 84,000,000 tons fed annually during the preceding 10 years.

To supplement the short supply of hay there is the record tonnage of corn fodder and considerable straw and stover and cottonseed hulls that can be used. The drought areas have also stacked large quantities of Russian thistles and weeds. These low-grade roughages, although helpful in wintering breeding herds and work stock, will not take the place of hay for milk production. It is probable that on most farms where different classes of roughages are available, cows being milked will be favored over most other kinds of livestock; but, judging from the October reports of dairy reporters of the Department, in many States severely affected by the drought hay will constitute far less than the usual proportion of the total roughage that will be fed to milk cows this winter.

The shortage of roughage and the near-record high prices of hay now prevailing in some States will also cause farmers to keep their cows in pastures, stalk field, and winter-grain fields as late in the fall and as early in the spring as possible.

The extent to which the general shortage of grain and hay affects the rations of milk cows will depend in part on governmental action in distributing feed, on the relative financial ability of farmers in the various regions to make purchases, and on the relative returns from dairy products as compared with returns from other animal products and from meat animals. The shortage of

grain, in addition to the Agricultural Adjustment Administration's hog-control program, has already caused a much larger reduction in the number of hogs on farms than would have resulted from the latter program alone, and has resulted in the marketing of many hogs at light weights. Undoubtedly the quantity of grain used for fattening beef cattle and sheep for market will be greatly reduced, perhaps to less than half the usual tonnage, but even with such a reduction and an equal reduction in the feed of hogs there would remain far less than the usual supply for milk cows, work stock, and poultry. Judging from present prices, from the location of the feed and of the livestock, from the usual response of farmers to feed shortages, and from the quantity of grain being fed to milk cows on October 1, it seems probable that the quantity of grain and concentrates per head fed to milk cows this winter will be from 20 to 30 percent less than usual but only 10 to 15 percent less than was fed last winter.

DISTRIBUTION OF FEED SUPPLIES

The regional distribution of the feed supplies will have an important effect on the output of dairy products during the next 6 months. The drought has caused marked departures from the usual price differences between States. In the Northeast the cost of feed being fed to milk cows on October 1 averaged about \$36 per ton. This was \$5 per ton higher than on that date last year, an increase of 16 percent. In South Dakota most of the farmers were feeding no grain to their milk cows on October 1, but some that were feeding valued the grain being fed at \$33 per ton, as compared with \$16.70 reported last year. This is an increase of almost 100 percent. Hay prices are equally abnormal, being higher in some of the drought States than they are in some States along the Atlantic coast. As there has not been a proportionate change in the prices of dairy products, the situation is extremely unfavorable for heavy feeding of milk cows in the drought States and, so far, only moderately unfavorable in States usually dependent on purchased feed supplies.

The greatest shortage of feed is in the Great Plains range area extending from eastern Montana and central North Dakota to Texas and New Mexico. In this area, which is relatively unimportant in dairy production, herds have already been materially reduced, and most farmers appear to be more concerned about keeping their cows alive until new grass comes next spring than they are about maintaining milk production. In this area relief funds will help to maintain the production of family cows, but commercial butterfat production is likely to be exceedingly low during the winter-feeding period.

At the western end of the Corn Belt there is a more important butterfat-producing area where winter production will also be very low. This area includes the eastern portion of the Dakotas, Nebraska, Kansas, Oklahoma, the west central part of Minnesota, southern Iowa, most of Missouri, and western Arkansas. In this area most of the corn failed to mature grain and, with small-grain production abnormally low, there is a shortage of grain on most farms except on those carrying over a large quantity from preceding years. Hay production was also greatly reduced but a large tonnage of corn fodder has been cut. In most of this area grain is worth about twice as much per bushel and hay is bringing two to three times as much per ton as at this time last year, while the price of butterfat is only about one-fifth higher than a year ago. Under these conditions the quantity of grain and hay fed to milk cows this winter is likely to be less than in any recent year. In most of the mountain area feed supplies are seriously short for the livestock on hand and the rations of milk cows will be reduced this winter in order to carry work stock and breeding stock through the winter.

In the eastern and central portions of the Corn Belt, hay and grain supplies are insufficient to provide normal rations for the livestock on hand and at the same time supply the quantities needed for industrial purposes and some for shipment to the drought area. To take advantage of the favorable prices offered for grain some farmers in these States will dispose of part of their livestock and reduce the feed of the rest. Hay supplies are also short but in most sections there is sufficient silage, corn fodder, stover, and straw to permit the usual tonnage of roughage to be fed. Taking the region as a whole, milk cows will probably receive even less grain per head than the very low ration supplied last year and there will be more than the usual substitution of coarse forage for hay. As a result there may be a rather general reduction in commercial butterfat sales and moderate reductions in milk deliveries.

Hay supplies in the Northeast and on the Pacific coast, while short in certain localities, are sufficient for ordinary needs if economically fed. As more than three-fourths of the concentrates fed to milk cows in these areas are usually purchased, the shortage of supplies will be keenly felt. In recent months milk prices have been high enough to permit fully the usual rate of feeding in these areas, but during the next 6 months more difficulty may be encountered in obtaining feed supplies owing to the limited supply for sale, the demand from the range area for the limited supply of cottonseed cake and meal, and the increased consumption in the drought area of the locally produced mill feeds. Although increased imports of grain or feed from South America and the Far East may somewhat relieve the shortage of supplies in coastal States some reduction from the usual rate of feeding seems probable. In the South, east of the Mississippi River, feed supplies are for the most part up to or above the usual average, but milk production may be decreased somewhat by the high price of cottonseed and of cottonseed meal.

MANUFACTURED DAIRY PRODUCTS

The combined domestic production of the principal manufactured dairy products, on a milk-equivalent basis, for the period January 1 to October 1, 1934, is estimated to have been about 5 percent less than during the corresponding period of 1933. The production of creamery butter decreased about 6.5 percent, and evaporated milk about 4 percent. Cheese, however, showed an increase of around 1.8 percent, and condensed milk 9 percent during this same period. From May to August, inclusive, creamery butter production decreased 6 percent, and evaporated milk less than 1 percent, as compared with the corresponding period of 1933; but cheese and condensed milk increased 3 and 13 percent, respectively. In the early part of the year, short feed supplies as a result of the 1933 drought, and an unfavorable price situation, operated to decrease production. The usual seasonal improvement in the output of manufactured dairy products occurred at the beginning of the pasture season, but production was again checked during the early summer months by this year's drought.

Scattered rains in late July and August resulted in some improvement in pastures and in growing conditions for feed crops generally, and although butter production during July and August continued below that of the corresponding months of 1933, the decrease was only 2.5 percent, as compared with decreases of approximately 9 percent in May and June. Estimated butter production in September exceeded that of September 1933, by 1.3 percent, but in States where rains had come too late to be of much aid, and where the feed situation continued critical, there were very heavy decreases in both August and September. The States thus affected were Texas, Oklahoma, Kansas, Nebraska, Missouri, Montana, and North Dakota. Iowa, Minnesota, Wisconsin, Indiana, and Illinois all showed substantial increases during August and September, as well as in July. The production of manufactured dairy products in the East suffered much less from the drought this year than in the Middle West. Production of butter in the New England States showed a slight decrease for the first 9 months, but in the Middle Atlantic States, which include several fluid-milk sheds where at times there has been a considerable surplus of market milk, it was about 22 percent greater, but this increase amounted to only 4,000,000 pounds.

The production of manufactured dairy products for the remainder of the year will probably follow an irregular trend. In those sections where good fall pastures are available, production will probably be maintained until fall barn feeding is begun. But in the greater part of the Great Plains States where pastures made but little improvement following the drought, and where feed supplies of all kinds are limited, no recovery in production except possibly some seasonal increase is expected prior to the pasture season of next year, and a reduction in production below the level of last year appears probable during the coming winter. The extent of the reduction will depend upon the utilization of available feed supplies among the various classes of livestock.

COLD-STORAGE HOLDINGS

Total United States stocks of butter in cold storage on October 1 reached 124,814,000 pounds, compared with 174,713,000 pounds on October 1, 1933, and a 5-year average for October 1 (1929-33) of 126,877,000 pounds. The peak of

holdings is usually reached on September 1, but this year the into-storage movement continued until the early part of October. October 1 stocks were 50,000,000 pounds below the record stocks of a year ago, but were approximately the same as the 5-year average for October 1. During previous months of the current season since June 1 this year's stocks were not only less than a year earlier but were considerably below average. The movement of butter into cold-storage warehouses this season was relatively light, the net increase from May 1 to peak holdings being 112,976,000 pounds, compared with an increase of 166,078,000 pounds in 1933 and a 5-year average increase of 126,726,000 pounds. An increase in storage stocks of butter during September, which is unusual, was due this year to a lighter movement into apparent consumption, together with the fact that production of butter was relatively heavier in August and September than in 1933 in some sections, particularly in parts of the central Western States.

Storage stocks of all classes of cheese are very large. American cheese alone in cold storage on October 1, 1934, totaled 108,646,000 pounds, compared with 99,326,000 pounds on October 1, 1933, and a 5-year average as of October 1 of 83,754,000 pounds. Stocks of evaporated milk in manufacturers' hands on September 1 amounted to 175,129,000 pounds, and condensed milk 24,814,000 pounds. These were both below the stocks of a year earlier. In terms of milk equivalents, October 1 stocks of butter, cheese, and condensed and evaporated milk were 18 percent less than on October 1, 1933.

FOREIGN COMPETITION

In comparison with domestic prices of butter, foreign prices continue abnormally low. The diverging tendencies toward heavier world supplies and curtailment of domestic production indicate a still further widening of price margins as between London and New York and indicate some importation of butter into this country before the next pasture season. Usually, during the middle of the year, our tariff on butter has little, if any, effect upon trade since domestic prices are so nearly equivalent to those prevailing in the world market, while during our winter seasons it is not uncommon for price margins to develop practically equal to the 14-cent tariff over short periods. In early July of this year the New York price of 92-score butter reached 11 cents above the Copenhagen export price of 13 cents. Since that time there has been the usual seasonal advance in European markets preceding the heavy fall and winter arrivals from sources in the Southern Hemisphere. Recent quotations would indicate, however, that seasonal decline has already begun. On October 11 the Copenhagen butter quotation was 8 cents below New York wholesale prices, and New Zealand butter in London was quoted 12 cents below.

In the summer months of last year these margins were practically the same as prevailed this year but with the important difference that for many months thereafter United States currency was further depreciating in relation to the British pound sterling. London butter prices, accordingly, when converted from shillings to cents, were increasing because of the decrease in the foreign-exchange value of the dollar. Since Danish currency has been held at a constant exchange ratio with English currency, the effect of depreciation in the United States upon Copenhagen prices was identical with that referred to as applying to London prices. Thus, London prices which are normally comparatively low during the winter months actually advanced last year in cents per pound, thus tending to narrow the margin under New York. In April 1933 quotations on finest salted New Zealand butter averaging 75 shillings 6 pence per hundredweight (of 112 pounds) were equivalent to 12.1 cents per pound at prevailing exchange, whereas in December 1933 an average of 78 shillings resulted in a converted price of 17.8 cents. In addition, domestic prices failed to make the usual seasonal advance, and price margins in favor of New York over London were much narrower during the winter months than they had been in the summer.

Although foreign and domestic price relationships were about the same last summer as a year earlier, the situation has been notably different as affecting the prospect for the fall and winter months. Aside from the improbability of a repetition of the abnormal exchange relations, indications are that domestic supplies of both fresh and storage butter will be light, with seasonal price advance at least normal, and that British supplies will be increasingly heavy, with prices next winter at least as low as they were in July.

The margin over the London price of best Danish butter necessary to divert Danish butter from British markets to this country is not the full amount of

our 14-cent tariff but a margin less than that by about 3½ cents, which is the equivalent of the British tariff on "foreign" or non-Empire butter, as set up in accordance with the Ottawa agreement in 1932 establishing trade preferences for British dominions.

European market prices of butter have been depressed to the low levels now prevailing, in part only by increase in total world supply. To a far greater extent this is the effect of wide-spread national trade restrictions which have concentrated world supplies upon the relatively free British market. Total exports of butter accounted for by 13 of the most important surplus-producing countries amounted in 1933 to 1,180,278,000 pounds, an increase of only 17,000,000 pounds over 1932—actually less than the total in 1931 by 30,000,000 pounds, and 208,000,000 pounds, or 21 percent, greater than the 1925-29 yearly average. Of all the butter moving in international trade in 1925-29, 65 percent was exported to the United Kingdom, whereas in 1933, 84 percent was finally absorbed by British markets. The difference of 333,000,000 pounds between the imports retained for consumption in the United Kingdom in 1925-29 and 1933 represented an increase of 41 percent. The United Kingdom with its population approximating 46,000,000 has increased from year to year the quantities of butter imported and retained for consumption as follows: 120,000,000 pounds over the previous year in 1931; 47,000,000 pounds in 1932; 68,000,000 pounds in 1933; and 111,000,000 pounds in the first 8 months of 1934 over the corresponding period of 1933. Butter consumption, per capita, has increased in Great Britain during the last 10 years fully 50 percent, from about 15 pounds to 23.5 pounds in 1933, in contrast to a practically stationary consumption per capita in the United States, over the same period, of approximately 18 pounds.

Butter prices have been low in Great Britain relative to prices of margarine, and consumption of margarine has fallen off, according to best available estimates, from 14 pounds per capita in 1929 to 9 pounds in 1933, with indications of still further decline in current consumption. In the United States, where margarine consumption was less than 3 pounds per capita in 1929, the diversion of demand from margarine to butter was possible only on a much smaller scale, with consumption having declined by 1932 to about half that of 1929.

Further increase in the British butter supply must result in a more-than-proportionate decrease in British butter prices, according to studies made by British economists.

The increase in British supply has been contributed to chiefly by New Zealand and Australia, where a record production year has recently ended and a new season opened with production in the early months outrunning that of the corresponding period of last year. Both of those countries, with free entry into British butter markets, have practically doubled their exports of butter within the last 5 years. The relative increase in supply of these Empire butters in British markets is responsible, in part at least, for the relatively low prices now prevailing for these butters. Markets alternative to Great Britain are to be sought by marketing authorities in both of these countries even before the expiration of the Ottawa agreement in November 1935. At the end of that period restriction of supplies by the British Government is anticipated.

In Canada creamery-butter production during the first 7 months of 1934 showed an increase of 6 percent over the like period of last year, having amounted, according to official estimates, to 135,341,000 and 127,554,000 pounds, respectively. Storage holdings of creamery butter in all Canada amounted on September 1, 1934, to 50,433,000 pounds against 42,020,000 pounds a year earlier. Montreal butter prices continue well below New York prices, and only slightly above the level of Copenhagen quotations. Canada is now on a net export basis in the butter trade and, with production and stocks at recent levels and a tariff on butter equal to ours, does not appear to afford any immediate outlet for world supplies.

World trade in cheese has declined steadily in recent years, and there has been no such concentration of world supplies as in the butter trade upon British markets. Between 1925-29 and 1933 imports of all cheese in the United Kingdom increased from 331,101,000 pounds to 338,069,000 pounds, or 2 percent only, while imports during the first 8 months of this year, amounting to 227,888,000 pounds, are slightly less than in the corresponding period of last year.

Lessened importation into the United States and Germany has accounted chiefly for the decline in exports of the European types of cheese, such as Dutch, Swiss, and Italian, while trade in the American or Cheddar-type cheese from New Zealand and Canada has been well maintained, principally with Great

Britain. The decline in Canadian exports has been balanced by an increase in exports from New Zealand.

Our importation of butter in the year ended June 30, 1934, as in the previous year, was less than 1,000,000 pounds, and was again slightly exceeded by exports. Imports of Swiss-type cheese fell further, from 12,304,000 pounds to 7,918,000 pounds, and other cheese from 43,619,000 pounds to 37,684,000 pounds. Exportation of concentrated milk was slightly less than last year, but the decline was the least marked of any recent year. The movement of foreign exchange favored exportation, and despite sustained import restrictions in Great Britain, the falling off in our total concentrated-milk exports was checked and exports of dried skim milk and milk-powder preparations were slightly increased.

The Agricultural Adjustment Act authorizes the Secretary of Agriculture to issue licenses to processors, associations of producers, and others engaged in handling a product in interstate and foreign commerce in order to protect a marketing agreement or license. In the absence of such an agreement there is no authority under the Agricultural Adjustment Act to control importation.

Should the domestic producers of butter at a later date enter into marketing agreements, a new situation will have come into existence which will have to be analyzed in the light of the provisions of the marketing agreement and the facts existing at the time.

PRICES

Farm prices of dairy products rose 44 percent from their low in March 1933 to September 1934. During this period the farm price of butterfat rose 71 percent, the price of milk sold at wholesale by farmers 39 percent, and the price of milk retailed by farmers 20 percent. Those products that declined most in price from 1929 to 1932 have increased most during the last 18 months. This unequal rise in prices has restored a more normal relationship between the prices of the various dairy products. Even with this marked rise, farm prices of dairy products in September 1934 were about the same as in the pre-war period 1910 to 1914, but only about two-thirds as high as in the 5-year period, 1925-29.

In contrast with the 44 percent rise in farm prices, retail prices of dairy products rose only 23 percent. The greater rise in farm prices than in retail prices has corrected, in part, the disparity between these two groups of prices. From March 1933 to August 1934 the retail price of butter rose 42 percent, cheese 19 percent, and milk 14 percent. The retail prices of those dairy products that declined most in the deflation period have increased most in the last 18 months. This has corrected to a considerable extent the maladjustments in the price structure.

During the period of generally rising prices, March 1933 to September 1934, the general level of farm prices rose 82 percent, farm prices of grains rose more than 200 percent, cotton and cottonseed more than 100 percent, meat animals 50 percent, and dairy products 44 percent.

During the storage season, May to September 1934, farm prices of dairy products averaged about 13 percent above prices during the corresponding period in 1933. Farm prices of butterfat also rose 13 percent. Between May and September 1934 farm prices of dairy products increased about 9 percent and farm prices of butterfat about 11 percent.

In the deflation period prices of dairy products did not decline so rapidly as did the prices of many other farm products. In 1932 the farm price of butterfat in relation to feed grains was the highest in more than 30 years. With the rise in the general level of prices because of monetary policy and the drought, grain prices have increased much more than prices of dairy products. For the 12 months ended with September 1934 the farm price of butterfat in relation to feed grains averaged the lowest in about 14 years, and averaged only about 70 percent as high as in the period 1925 to 1929. This relationship between the price of butterfat and feed grains is probably not high enough to maintain production at its present level. The farm price of milk cows is the lowest in relation to the general level of farm prices in more than 25 years.

The low prices of dairy products in relation to feed prices will probably continue until the next pasture season. With more normal crops in 1935, however, dairy-product prices will bear a relation to feed prices much more favorable than that now existing. Although prices of milk cows will probably remain relatively low during the coming winter, the longer-time outlook is for a rise in prices of milk cows.

OUTLOOK

A review of the various factors already presented may best be made in terms of their varying effects on the dairy industry in different periods in the future.

The most pronounced effect of the drought will be felt during the coming winter-feeding period of about 6 months. The extreme shortage of feed grain and other concentrates and the only slightly less severe shortage of good roughage will raise the cost of production of milk, will probably lower the net returns from the use of high-priced feeds for dairy production, will considerably reduce the volume of dairy production, and will tend to raise the prices of dairy products. However, the prospective rise in dairy-products prices is likely to be less than would be experienced if consumer purchasing power were to be up to normal. In the case of butter, the price rise will be checked also by potential or actual importation, in view of the discrepancy between supply and price conditions in the foreign and domestic markets.

The shortage of feed and resulting decline in dairy production are likely to become progressively greater as the winter-feeding period advances. In the fluid-milk areas of the Northeast, where there are larger supplies of roughage in proportion to local needs, and where adjustments upward in the price of fluid milk are being made, less reduction is likely to result. It is expected that the supplies of fluid milk will be adequate to meet the demand of consumers. On the other hand, in the manufactured dairy-products areas there is likely to be a very substantial reduction in the milk flow below that of corresponding months a year ago, and this reduction is likely to become progressively greater as the winter advances and feed supplies dwindle. This reduction is likely to be substantial in the most important creamery-butter-producing States, such as Minnesota and Wisconsin, and to be extreme in the centralizer territory of the Great Plains.

The effect of the drought on dairy production beyond the coming feeding period is not so clear. The drought has undoubtedly killed the grass, clover, and alfalfa seedlings of last spring over wide areas in the Middle West, so that the quantity of feed to be obtained from the usual hay crops and from rotation pasture is likely to be considerably below normal. On the other hand, farmers will undoubtedly pay special attention to temporary hay crops and emergency pastures and to the planting of grains that will yield early available supplies of feeds, so that, with a normal rainfall, the effect of the current year's drought will not extend in an extreme degree beyond the winter feeding period.

On the whole, dairy farmers will be relieved from the most distressing effects of the drought with the coming of the pasture season next spring, and the outlook is for a volume of milk production during the usual flush season somewhat below that of recent years. Grain feeds and other concentrates as pasture supplements will be extremely scarce, and it is improbable that pastures in the areas most severely affected by the drought can recover their full normal carrying capacity during the next growing season.

The outlook for the dairy industry beyond the summer of 1935 is affected primarily by the reduction in cattle this season. The drought evidently had the effect of shortening the upward trend in the number of cattle by about a year and introducing the downward phase of the cycle with an initial sharp reduction. Since the reduction in cows, including beef and dual-purpose cows, has been proportionally greater than in all cattle, the movement has probably greatly retarded developments in the direction of an accelerated increase in dairy production which was anticipated as a result of the reduction in acreage of crops, such as corn, wheat, and cotton, and the expected increase in hay and pasture.

The reduction in number of milk cows has probably meant a culling out of low producers and there may result a tendency to higher production per cow when feed supply again becomes normal. The effects of this reduction should be of advantage to dairy farmers. Feed-grain supply will probably be more nearly normal with the harvesting of next year's crops, and this will reduce the cost of dairy production. The reduced number of milk cows will tend to counteract the effect of any increase in production per cow during the next 2 or 3 years and thus prevent an overexpansion in supply. If there is improvement in general economic activity, it will strengthen the demand for dairy products.

POULTRY AND EGGS

The outlook for poultrymen during the coming winter and spring is rather favorable to those in a position to retain and feed their layers. The high

price and scarcity of grain is forcing a drastic reduction in numbers of live-stock, including poultry, especially in the badly damaged drought areas. Supplies of both eggs and poultry will be relatively short until next summer, when the chickens of next year's hatching begin to affect supplies, and prices of poultry products may be expected to continue at seasonably high levels until that time. The total number of hens and all pullets on October 1 this year was about 7 percent below the number on that date in 1933 and about 11 percent below the number in 1930, which was close to the high record. Farmers have been keeping as many of their hens and pullets as possible, but there has been a heavy early marketing of the young males. A further reduction in the laying flocks below numbers last year seems probable, the extent depending upon relative prices of feed and of poultry products this fall and winter.

Egg production has been and will probably continue to be materially less than last year and considerably below the 5-year average, with further relative decreases this winter and next spring somewhat in line with expected further reduction in relative numbers of laying stock. Total storage stocks of eggs, both shell and frozen, on October 1 were about 5 percent less than last year. Stocks of shell eggs showed a still greater decrease. With a short supply of fresh eggs in prospect and with prices of other foods increasing, a good market for eggs seems assured during this winter and early spring. The October 15 farm price of eggs, 23.7 cents per dozen, compared with 20.8 cents on that date in 1933, being 1 percent below pre-war levels, but still 35 percent below the favorable levels of the post-war years 1927-31.

The tendency shown by egg prices during the spring and summer of 1934 to rise faster than the usual seasonal advance is expected to continue to about December, and the winter and spring prices will probably not decline to as low a level as in 1934.

The supply of poultry will be short this year, owing to a decrease of 10 percent in the number of chickens raised and to a smaller crop of turkeys. Heavy marketings of young chickens have taken place during the summer and early fall, but the supply remaining for later marketings will be much smaller than last year and smaller than usual unless farm consumption is curtailed or flocks are further materially reduced in the drought areas. Owing to the heavy early marketings, the cold-storage stocks of poultry on October 1 were about 10 percent heavier than in 1933 and 12 percent above the October 5-year average. However, with fewer young birds yet to go to market, it is expected that storage stocks on January 1, at the normal peak of the storage season, will be considerably below the average.

The United States average farm price for chickens on October 15 was 11.8 cents, compared with 9.3 cents in October 1933, being 1 percent above pre-war and 40 percent below post-war levels. Prices of chickens usually change but little from March to October, but they advanced 10 percent during the spring and summer of 1934. With the smaller supplies of poultry and with prices of competing types of meat increasing, poultry prices are expected to advance further during the fall and winter and to remain at higher levels during the first half of 1935 than in that period of 1934.

NUMBER OF CHICKENS

The number of mature hens in farm flocks on October 1, 1934, was 3 percent less than on that date in 1933. The number of pullets of the 1934 hatch of laying age on October 1 was 8 percent less than in 1933, and the number of pullets not of laying age was 11 percent less. The large reduction in the number of pullets was due to a decrease in hatching this year, and to the feed shortage. Although the Atlantic Coast States, both north and south, on October 1 showed relatively more young chickens compared with the same date last year, than in July, the drought-stricken Central and Western States showed relatively fewer young birds, compared with last year, than in July. The West North Central States showed a decrease in the number of pullets on October 1 of 17 percent below October numbers in 1933; the South Central States a decrease of 12 percent; and the North Atlantic, East North Central, and far western divisions each showed a 7 percent decrease. The South Atlantic States alone showed an increase in pullets, of 3 percent. Combining hens and pullets of all ages, the resulting number of potential layers on hand in the United States on October 1 was 7 percent less than last year, and 11 percent less than the near-record numbers of 1930. The decrease below last year in the

number of potential layers on October 1 was 10 percent in the West North Central States, 12 percent in the South Central, 9 percent in the far western, 6 percent in the East North Central, and 1 percent in the North Atlantic States. There was an increase of 2 percent in the South Atlantic States.

It appears that the heavy marketings of chickens thus far this year, although affecting pullet numbers materially, have been more particularly from the class of "other" chickens, the numbers of which were reported at 22 percent less than last year. The decrease in this class, consisting mainly of young cockerels, amounts to about 30 percent in the West North Central States, where drought was most severe, and up to almost 50 percent in some of the worst affected States. It appears that farmers, particularly in the drought areas, have been marketing surplus males from the young flocks early in the season this year in order to conserve feed, and that whenever possible they are keeping their hens and pullets. Many farmers in the drought area, especially those who ordinarily produce few winter eggs, will endeavor to bring their reduced numbers of layers through the winter on a near-maintenance ration, hoping for good egg prices during the heavy-laying period next spring. During the late fall and early winter, however, after the supply of grass and insects has failed, so that farm chickens can no longer obtain substantial quantities of feed from the field, a further unusual depletion of laying stock will probably occur in the drought areas. This further decrease will be balanced in part by a tendency to keep as many layers as possible in sections where the farmers have sufficient supplies of feed.

Producers who are favorably located with reference to markets and who have available feed, especially those in the Atlantic Coast States and in part of the East North Central States, have maintained the number of layers at about last year's level. Producers in the Pacific Coast States who supply a high grade of market eggs and have feed this year, have thus far made only moderate reductions. Considering the severity of the drought situation, however, and the importance of the drought area in production of poultry products, it appears probable that the total reduction in laying stock by midwinter may be close to 10 percent below the numbers last winter and about 15 percent below average numbers at that season in the years 1927 to 1931, inclusive.

The reduction in numbers of chickens will probably be less than in that of meat animals generally, because numbers of chickens have been stationary or declining since 1930, with a resulting upward price adjustment now in progress, while numbers of cattle have increased greatly and hogs and sheep have increased slightly, with resulting price levels for meats less favorable than those for poultry products when considered in relation to the price of feed.

Although the reported figures on numbers of poultry are for farm flocks, and do not include commercial flocks, it appears probable that the high feed prices of the past year or more, with the smaller increase in prices of eggs, compared with average post-war relations, have had an effect upon numbers of layers in commercial flocks similar to their effects upon farm flocks in the same areas.

COMMERCIAL HATCHINGS IN 1934

The commercial production of baby chicks during the first 7 months of 1934 was apparently about 11 percent smaller than the production of the similar period of 1933 and 3 percent smaller than in 1932. Production was much less than last year in the Central States, ranging from about 10 percent less in the South Central States and 11 percent in the West North Central up to 18 percent less in the East North Central States. Production was also substantially smaller in the important egg-producing areas of the far West, the Pacific Coast States showing a decrease of 11 percent and the Mountain States 13 percent. In the Eastern States, however, there was an increase, the reported production of New England being 30 percent greater than in the previous year. This was the only section that showed an increase, and, owing to the absorption by large hatcheries of many of those of small capacity, the figure may exaggerate somewhat the actual increase. Chick production in the Middle Atlantic States showed a decrease of 16 percent and in the South Atlantic 12 percent decrease.

POULTRY SUPPLIES

With a 10-percent reduction in the numbers of young chickens produced in 1934 below numbers in 1933, which was an average year, with heavy early mar-

ketings of both hens and young stock, and with October 1 numbers of hens 3 percent less, pullets 10 percent less, and other chickens 22 percent less than last year, a considerable decrease in the number of chickens sent to market during the fall and winter of 1934 is to be expected, even allowing for further marketings of laying stock in the drought States. The average weight of the chickens to be marketed may be even less than the light weights of those marketed last season unless the relation of the farm price of chickens to the price of feed improves. The October 15 relation of chicken prices to feed prices was 89 percent as much as in the pre-war 1910-14 period, but only 70 percent as high as in the post-war 1923-27 period. Many farmers in the drought area, which normally supplies a large proportion of the chickens for the commercial markets, have neither the feed nor the means for obtaining it to bring their poultry to proper marketable weights; therefore considerable poultry that is lighter in weight than usual will be sold to consumers.

RECEIPTS OF POULTRY

Receipts of dressed poultry at the four principal markets for the period of January through September 1934 were 8.4 percent smaller than for the same period last year. Receipts from the West North Central States were about 1 percent heavier, but from all other areas they were substantially less, except those from the Pacific coast, which comprise only a very small fraction of total receipts. The only months to show receipts heavier this year than last year were January and July. In January receipts were only fractionally larger than those of January of the preceding year, but in July they were about 2 percent higher. The increase in July was due to the heavy marketings of poultry by farmers in the Middle West during June and July, where the drought damaged the feed crops and summer ranges to such an extent that farmers were forced to reduce their stocks of poultry. Although marketings of poultry in that area continued heavy through August and September, the weak demand from terminal markets caused most of it to be stored at interior storage points.

Receipts of live poultry at New York and Chicago, the only two points for which such information is available, for the first 9 months of this year were about the same as those of a year earlier. The 11-percent decline in baby chicks hatched this year resulted in a smaller number of young chickens available for marketing, but the lack of feed and the unseasonable growing conditions as the result of the drought this summer caused the marketing of a larger proportion of this year's chicken crop as broilers and fryers. Until recently the receipts of live roasting chickens of 3½ pounds weight and over have been exceptionally small, but with the beginning of October such chickens began to come to market in large numbers. In view of the sharp selling of young stock this summer it appears that the number of young chickens on farms to be sold as roasters later in the year is considerably smaller than a year ago.

STORAGE STOCKS OF DRESSED POULTRY

Stocks of poultry in storage on July 1 this year amounted to 40,609,000 pounds compared with 42,705,000 pounds on July 1 last year, and 41,235,000 pounds for the 5-year average. In contrast to the usual seasonal trend stocks in storage increased during July, and in August and September they showed a much larger-than-normal seasonal gain. Stocks of poultry on October 1 amounted to 55,271,000 pounds, compared with 50,177,000 pounds on October 1, 1933, and 49,359,000 pounds for the 5-year average. These large stocks, in comparison with both last year and the 5-year average, are due to the heavy marketings of poultry during recent months. In view of the sharp increase in storage stocks that has already taken place, it seems probable that the later into-storage movement will go forward at a much less rapid rate. It also seems probable that at the peak of this year's storage season the total quantity of poultry in storage will be smaller than at the peak of last season.

APPARENT TRADE OUTPUT OF POULTRY

The apparent trade output of dressed poultry for the four markets (Boston, New York, Philadelphia, and Chicago) during the first 9 months of 1934 was about 5 percent smaller than during the corresponding months of 1933. Although the volume apparently consumed at these markets was somewhat smaller than a year earlier, prices for the most part have been several cents

higher than last year. Receipts were about 9.4 percent less but trade output declined only about 5 percent as heavy withdrawals were made on the large stocks of poultry in storage carried over from 1933. No figures are available on the trade output of live poultry, but based upon receipts at Chicago and New York it was about the same as that of the preceding year.

POULTRY FEED SITUATION

The production of feed grains in 1934 was only 53 percent of the 5-year average. In some of the worst drought-damaged States the production ranged from 30 percent down to as low as 7 percent. Most of the States east of the Mississippi River, those on the Pacific coast, and most of the Rocky Mountain States had from a fair to average production of feed grain, but in the great grain-producing region of the West North Central States production was only 28 percent of the average. It has been estimated that the grain-consuming animal units of the country will have been reduced by November 1 to 81 percent of the number on that date in 1933. Even with this decline in livestock numbers it is evident that supplies of feed will continue very short and prices will continue high until next summer.

The October 15 price index of feed for poultry stood at 86 this year compared with 51 in 1933 and with 31 in 1932, on the basis of prices in the post-war years 1927-31. On the basis of October pre-war prices this year's October feed-price index number stood at 114, against 67 last year.

The October 15 price of some of the soft western wheats was less than that of corn. An unusual proportion of wheat will probably be used in the poultry ration this year, particularly in the Western and Central States. A larger than usual proportion of mill feeds, concentrates, and commercial scratch feeds may also enter into the average farm ration.

The effect of the feed situation on egg production in different parts of the country is discussed in the following section.

EGG PRODUCTION

The production of eggs per hen during the first 10 months of 1934 was the smallest for those months since 1925. Although the number of eggs laid per hen on October 1, 1934, was slightly greater than the record low October 1 figure of 1933, it is reasonable to expect, in view of the importance of egg production in the area affected by severe drought and feed shortage that it will be lower during the coming fall and winter months than last season, when production per hen was about average. A factor tending to maintain the fall and winter production of eggs per hen close to normal is that a larger proportion of the laying birds are in the sections where commercial production of eggs is important and where consequently fall and winter production of eggs per hen is greatest. Producers undoubtedly will try to maintain in good productive condition that branch of the farm industry that is capable of bringing in a constant cash return, and the short supply of fresh eggs may raise prices to the point at which fairly liberal feeding may appear to be justified even though feed prices remain high. Even allowing for these factors tending to support a full seasonal rate of laying, the total reduction in production of eggs this fall and winter seems likely to be at least as great as, and probably greater than, the decrease in numbers of layers, and it appears probable that it will fall below that of last season by 10 percent or more and below the 5-year average by at least 15 percent.

Weather, as always, will be an important factor in determining the rate of winter production of eggs per hen and will operate to limit or increase the prospective decline in production.

If the usual proportion of layers is disposed of during the winter, the number left in the spring of 1935 will probably be at least 10 percent less than in 1934.

Chickens carried through the winter in the drought area in the West Central States are likely to be in poorer condition than usual, and therefore will be less prepared to lay a normal number of eggs during the late winter and early spring months. Because of the importance of these States in the production of the commercial supply of eggs for spring consumption and for storage, the total supply of marketable eggs next spring appears likely to be at least 10 percent less than that of last year, even considering the low rate of production per hen last spring.

The feed situation in the West North Central States, where drought conditions were most severe and where production of feed this year was only 28 percent of the average, is acute, and will so continue through the winter, even with the expected reduction of livestock units to 74 percent of the number in 1933. The total lack of grain on many farms located in this heart of the grain-producing area, is forcing reductions in numbers of layers, and this movement is likely to continue until egg prices show a more distinctly favorable relation to the price of feed than in October. Many farms that have supplies of wheat and other small grains, even though they may have no corn, will be inclined to keep as many layers as possible, depending on a scanty ration containing little if any corn, to carry them through the winter. Although some increase in the wheat component in the usual farm poultry ration might improve it, the average ration fed this winter in the drought area is not likely to be so well balanced or so abundant as usual. Most of the production of eggs in this area is from farm flocks, large commercial flocks being relatively few in number. Conditions in the South Central States of Texas, Oklahoma, and Arkansas, and in the Mountain States of Colorado, New Mexico, Utah, and Wyoming, are similar to those in the West North Central States.

In the East North Central States production of feed grain is about 63 percent of the 5-year average. The worst conditions extend from western Illinois into southern Michigan. In this area, farm flocks produce most of the eggs but commercial flocks fed on purchased feed are fairly numerous. Nearby and eastern markets this year will afford a ready outlet for all fresh eggs produced. The number of layers is being held at near last year's level. Flocks will probably be culled closely but the hens will be fed nearly normal rations to maintain production.

In the Pacific Coast States and in most of the Rocky Mountain area, except Colorado and adjoining States, production of feed grains ranged this year from 69 percent nearly up to the average. The large group of commercial producers in this area may be expected to feed close to a normal ration to a slightly reduced number of layers.

In the North Atlantic States feed production is above the average. The number of layers has not decreased appreciably and farm as well as commercial flocks will doubtless receive nearly their usual supply of feed. Commercial flocks are numerous in this area and most of them are maintained on purchased feed. Owing to the light production of grain in the Middle West and the good crops in the East this year, the increase in feed prices has been relatively much less in the East than in the Middle West. With a probable substantial decrease in receipts of eggs from the Middle West and some decline in the supply from the far West, local producers in the North Atlantic States should have an unusually favorable market for a full production of eggs even though consumption there should be somewhat curtailed by increased prices.

In the Southern States east of the Mississippi River, which normally import more eggs than they export, and in which feed supplies are better than the average, those who produce eggs for market will probably feed a nearly normal ration to about the usual number of layers. Although many small farm flocks will probably be reduced below usual numbers before the winter is over, from inability of owners to purchase high-priced feed in the usual quantity, the probable shortage of production by these small farm flocks will operate mainly to reduce the supply of eggs used on the farm.

RECEIPTS OF EGGS

Receipts of shell eggs at the four leading markets of New York, Chicago, Boston, and Philadelphia for the first 9 months of 1934 amounted to 11,154,000 cases, compared with 12,307,000 cases for the same months last year, a decrease of 9.3 percent. Receipts were much smaller from all sections, with the exception of the Middle Atlantic and Mountain States, which showed increases of 15.2 percent and 11 percent, respectively, and for the Pacific Coast States, which were practically unchanged. The decrease in receipts this year, compared with a year earlier, was largely the result of conditions in the Central States. Normally the East North Central and West North Central States combined supply around 80 percent of the receipts of the four large markets. This year receipts from those States were 9.4 percent smaller than for the corresponding period last year. Early last spring egg-breaking plants operating throughout that area, which were breaking on contracts at specified prices, paid

a premium over prices offered by local buyers, and a part of the supplies usually going to the terminal markets were broken out and frozen. The prospect of a generally higher price level in the fall also caused a rather extensive storage of eggs at interior points. Subsequently the late spring and early summer drought seriously checked egg production throughout most of the Middle Western States, and the supply of eggs available for shipment to the terminal markets continued less than that of a year earlier and less than usual.

STORAGE STOCKS OF EGGS

Combined storage stocks of shell and frozen eggs on a shell-egg equivalent basis amounted to 9,657,000 cases on October 1 this year, compared with 10,128,000 cases on October 1 last year, and 10,017,000 cases for the 5-year average for that date. Peak stocks for this year on August 1 amounted to 12,434,000 cases, compared with 12,583,000 cases on August 1 last year, and 12,144,000 cases for the 5-year average. Reduction in the combined stocks since August 1 amounted to 2,777,000 cases up to October 1, compared with a reduction of 2,455,000 cases during the same period last year. Stocks of shell eggs in storage on October 1 amounted to 6,803,000 cases, compared with 7,466,000 cases on the same date last year, and 7,338,000 cases for the 5-year average. Stocks of frozen eggs, which on August 1 amounted to 121,564,000 pounds, the largest quantity of that product ever reported in storage at any time since records became available, on October 1 amounted to 99,881,000 pounds, compared with 93,182,000 pounds on the same date last year, and 93,769,000 pounds for the 5-year average. As a result of the much smaller stocks of shell eggs in storage this year and the smaller fresh-egg production during the last several months, many manufacturers of food specialties who normally use shell eggs have used frozen eggs instead. The demand for frozen eggs has therefore been unusually active and stocks in storage decreased approximately 20,600,000 pounds from August 1 to October 1, compared with a decrease of about 14,400,000 pounds during the same period last year. Stocks of frozen eggs in storage on October 1 were still larger than those of the same date last year or the 5-year average, but in view of the smaller stocks of shell eggs in storage and the prospective lighter egg production during the late fall and winter months these supplies do not appear likely to interfere seriously with the increasing trend of prices.

EGG PRICES

The farm price of eggs on April 15, which is normally the lowest farm price of the year, was 13.5 cents per dozen in 1934 compared with 10.3 cents per dozen in 1933, an increase of 31 percent. Smaller egg production and a higher level of farm prices generally were mainly responsible for this rise in egg prices. The advance in egg prices from April to October in 1934, when they reached 23.7 cents per dozen, was less than the advance during the same period in 1933, but greater than normal. Ordinarily, farm egg prices in October may be expected to be about 64 percent higher than those in April, but on October 15, 1934, the price was 76 percent above the April price. The cause of this greater-than-normal seasonal advance in egg prices was about the same as mentioned above—a continuation of the upward movement of farm prices generally, and a greater-than-usual decline in summer and fall egg production which in turn resulted from some reduction in the average size of laying flocks, rising feed costs, and unfavorable weather conditions.

The tendency for egg prices to rise more rapidly than usual is likely to continue through late November and early December; after that, when egg prices normally decline, this decline may be less rapid than usual. This probability is strengthened by the fact that farm prices have shown a rising tendency. Unless unusually favorable weather conditions prevail this winter, fresh-egg production will be considerably decreased. With the stock of all eggs in cold storage on October 1, 1934, about 5 percent less than in 1933, and also less than the average, the check on rising fresh-egg prices from this source for the remainder of the storage period will be diminished. On the other hand, there are some indications that egg production along the Atlantic seaboard may be larger this winter, especially in the North Atlantic States, which contribute heavily to the commercial winter egg supply. This increase is likely to be somewhat offset, however, by a smaller production on the west coast which also contributes heavily to the fall and winter fresh-egg supply.

POULTRY PRICES

Farm chicken prices reached their lowest point since 1910 at 8.6 cents per pound as reported for December 15, 1933, but in terms of the normal seasonal movement of chicken prices the lowest point was reached when a price of 9.1 cents per pound was reported for March 15 of the same year. Between March 15, 1933, and March 15, 1934, the farm price of chickens advanced to 10.7 cents per pound, an increase of 18 percent, while in October of 1934, farm chicken prices at 11.8 cents were 10 percent above those in March. This is particularly significant since normally chicken prices for October are about 1.5 percent below March prices. The advance in chicken prices throughout this whole period was partly in response to advancing prices generally and in response to reduced chicken numbers. This latter influence was especially effective during 1934 when, in addition to the fewer layers in the farm flocks, a smaller number of chicks were hatched. Coincident with the prospect for a smaller supply of poultry during the fall and winter of 1934-35, it became apparent that supplies of other meats, especially the cuts of finer quality, would also be reduced, a fact which contributed to rising poultry prices.

Poultry prices are likely to advance still more during the coming fall and winter. The small hatch and the heavy subsequent marketings indicate a much smaller supply available for later marketings unless laying flocks are further materially reduced from their present low levels. It is not possible in October to estimate when the heavy rate of marketings from the drought-affected States will subside but relatively smaller marketings later are to be expected. With smaller poultry marketings, and reduced supplies of other meats which are in prospect for next spring, poultry prices are likely to advance to higher levels as compared with those of 1934, at least during the first half of 1935.

TURKEYS

The outlook is for higher prices for the turkey crop of 1934 than those received for the 1933 crop. This should result partly because of a moderately smaller crop and partly because of prospective reduced supplies of other poultry and the higher price level of meats and foodstuffs generally. Shortage of feed in many sections may result in a greater proportion of the crop than usual being marketed at Thanksgiving, and if this occurs better prices may prevail for the Christmas and later market than will be realized for the birds marketed earlier. Feed shortage and higher feed prices may also cause more turkeys to be marketed in an unfinished condition than usual, although the recent announcement of provision of loans by the Production Credit Corporation for feeding turkeys and loans by private bankers for the same purpose may minimize this effect. Even though prices average higher per pound for the 1934 than for the 1933 crop, the much higher feed prices and the probable lighter average weights at which marketed may result in smaller net returns to growers than last year.

Reports from crop correspondents indicate that the number of turkeys in farm flocks this year for the country as a whole will be about 93 percent of the large number raised last year. Scattered trade estimates report a somewhat greater decrease. Although production of turkeys this year on the basis of returns to the Department of Agriculture is about 7 percent less than during the last 2 years of record heavy production, it is slightly greater than the average production of the 5 years 1929-33. During this period the production of turkeys has increased rapidly owing to the increased adoption of modern methods of rearing, which cut down the heavy mortality, and to relatively low feed costs during most of the period 1930-33, which made turkey production more profitable than most of the farm enterprises.

Compared with last year this year's crop is reported to be somewhat larger in the Northeastern States, in the important producing States of Oregon and California, and in a central belt of States extending from the Rocky Mountains eastward to Chesapeake Bay, most of which are of secondary importance in turkey production. Both north and south of this belt the crop appears to be smaller, ranging downward to 65 or 75 percent in the important northern producing area of the Dakotas and Minnesota. In Texas and Oklahoma, the heaviest producing area, the crop appears to be fully 90 percent as great as last year. Drought conditions have apparently reduced the size of the turkey crop in some of the States affected, but in others the crop is as large or larger than last year.

This latter condition may be due to a lower mortality of the poults because of absence of rain during the critical period of their lives. No definite information is available concerning the number of turkeys raised in large commercial flocks, but it appears probable that there has been some decrease but no drastic change in the numbers produced in this way. The number of poults hatched in commercial hatcheries showed an increase of 22 percent in 1934 as compared with 1933. This increase doubtless represents a continuance in the trend, which has been in evidence for several years, to purchase baby poults instead of hatching them on the farms.

The supply of turkeys in storage is not excessive. Additions to storage stocks last year were heavy and when the peak was reached on February 1, 1934, holdings reached the all-time record of 19,941,000 pounds, as compared with 16,728,000 pounds on February 1, 1933, and a 5-year average of 12,605,000 pounds. Out-of-storage movement continued good throughout the year, however, and stocks on October 1, 1934, were reduced to 3,041,000 pounds, compared with 2,769,000 pounds on the same date last year and a 5-year average of 3,500,000 pounds.

Imports of turkeys in 1934 were negligible. Through August only 27,600 pounds had been brought into the country, compared with 126,000 pounds during the same period of 1933. This is only a very small percentage of the usual imports for a number of years prior to 1932.

With the crop moderately smaller than last year, early indications are that prices will be higher. The farm price reported for October 15 was 12.7 cents, as compared with 11.3 cents on the same date last year. Wholesale prices at New York for frozen stock in September were higher than on the same date in 1933, being nearly 5 cents higher for young toms and 1 cent higher for hens. The September wholesale price of live turkeys was nearly 3 cents and of fresh dressed turkeys nearly 4 cents higher than a year ago. Smaller prospective supplies of other poultry and decreased supplies of other meats, especially the better and more expensive cuts, are additional factors favoring higher turkey prices. Much will depend upon the holiday demand for turkeys. If this does not develop well, the available supply of turkeys will be large enough to hold price advances within narrow limits.

The October 15 farm price of turkeys in 1934 was equal to 92 percent of the 5-year average October pre-war price (1910-14), but to only 50 percent of the October average for the post-war years, 1923-27. Feed prices for October 1934 were 111 percent of the corresponding pre-war and 84 percent of post-war levels. The relatively unfavorable relation of turkey prices to feed prices in October this year, especially when compared with average October post-war relations, if it were to characterize the entire marketing season, would tend toward a further reduction in turkey numbers next year, even though lower feed costs then are probable. If the expected increase of several cents in this season's price develops, the decrease in numbers next year, if any, will probably be small.

CLOVER AND ALFALFA SEED

Production of red and alsike clover seed this year is the smallest on record and that of sweetclover is the lightest since this crop came into prominence. Production of alfalfa seed is below the average. Because of these short crops and the unusually small carry-overs, supplies of these seeds are the smallest in many years. Except for alfalfa seed, they fall far short of meeting normal planting requirements.

Almost all the red and alsike clover seed produced in a given year is obtained from the fields sown in the spring of the preceding year. Because a large percentage of the clover seedlings was badly injured or destroyed by the drought, it is apparent that another short crop of these seeds is in prospect next year. The expected exhaustion of supplies this year and the poor condition of new seedlings indicate that prices of red and alsike clover seed may continue at relatively high levels for another year.

Although new seedlings of sweetclover and alfalfa seed were affected considerably by the drought and the seed of the former will be obtained mostly from those (new) seedlings, the situation is not so serious as in the case of red and alsike clover seed. Nevertheless supplies of sweetclover seed in the fall of 1935 are expected to be below normal even though the plant is a prolific seeder almost irrespective of where it is being grown. Alfalfa seed supplies, barely sufficient for normal sowing requirements, are expected to be drawn upon

heavily where alfalfa may be substituted for other crops, the seed supplies of which are relatively shorter than those of alfalfa.

Production of red clover seed this year is estimated at 36,000,000 pounds, compared with approximately 59,000,000 pounds in 1933, 75,000,000 pounds in 1932, and 69,800,000 pounds, the 5-year (1927-31) average. Although the 1934 crop of this seed is the smallest on record, it is only about 2,500,000 pounds smaller than the 1924 crop. The short crop is due mostly to the drought, which reduced the yield of seed and caused a decrease in the acreage for seed production because a larger portion than usual of the total acreage of red clover was needed to help make up some of the deficiency in the supply of hay, thus leaving a smaller acreage of the crop available for seed production. The decrease in seed production this year is greatest in portions of Iowa, Minnesota, Michigan, Missouri, and Illinois.

Imports of red clover seed for the last 3 years have been negligible. During the fiscal year ended June 30, 1934, only 11,000 pounds was imported, compared with 10,332,600 pounds, the average for the 10-year (1921-30) period. Although no red clover seed has been permitted entry this (calendar) year, approximately 50,000 pounds, subject to the Federal Seed Act, arrived at two Atlantic ports during the first half of October. The larger production in Europe this year than last year is offset only in part by the small carry-over. Much more seed than in recent years is expected to be imported if prices here continue to rise relatively more than in Europe.

Exports of red clover seed for the 9 months ended September 1934, were 1,022,358 pounds, compared with 523,859 pounds for the corresponding period last year, 184,100 pounds in 1932, and 415,938 pounds for the 5-year average. It is understood that much of the seed was sold for export before the shortage in this country was realized and before prices had advanced sharply.

Although sales of red clover seed last spring were somewhat smaller than in 1933, the carry-over is smaller than usual. Current prices received by growers average about \$18.50 per 100 pounds, basis clean seed, compared with about \$9.75 last year, \$8 in 1932, and \$19.75, the 5-year average about October 15.

Production of alsike clover seed this year shows even a greater reduction from that of last year than does red clover seed. It is estimated that about 13,000,000 pounds was produced, compared with 25,000,000 last year, 26,200,000 pounds in 1932, and 28,100,000 pounds, the average for the 1927-31 period. No alsike clover seed has been imported since March 1931. The average quantity imported for the 20-year (1911-30) period was approximately 5,100,000 pounds. The lack of imports has more than offset the decreased sales in recent years and has been an important factor in causing supplies to be small. Current prices to growers average \$22 per 100 pounds, compared with \$11.25 last year, \$8 in 1932, and \$18.50 for the 5-year average.

Sweetclover-seed production is estimated at 30,000,000 to 35,000,000 pounds, compared with 41,400,000 pounds last year, 41,600,000 in 1932, and 60,600,000 pounds for the 5-year average. Largely because of the below-normal crops of 1932 and 1933 the carry-over is much smaller than usual, notwithstanding a very small decrease in the sales last spring. Supplies of new- and old-crop seed are the shortest since this crop began to be grown extensively, about 12 years ago. Current prices to growers average about \$6.25 per 100 pounds, compared with \$2.80 last year, \$2.15 in 1932, and \$4.60 for the 5-year average.

The alfalfa-seed crop was not affected so much by the drought as most other seed crops were, largely because it is able to withstand drought better and because much of it is produced on irrigated land. Although the drought decreased yields considerably in some sections, much of the reduction in acreage for seed production is attributed to the shortage and high price of hay and the poor condition of pastures. Of the important alfalfa-seed-producing States, South Dakota and Montana were affected most by the drought.

Alfalfa-seed production is estimated at 40,000,000 pounds, compared with 55,400,000 pounds in 1933, 32,100,000 pounds in 1932, and 52,200,000 pounds for the 5-year average. Imports have been small during the last 5 years, averaging only 202,160 pounds, compared with an average of approximately 6,500,000 pounds for the preceding 10 years. Production in Europe is indicated to be considerably better than that of last year, when the production was much below normal. For some time prices have been higher there than here. The 1934 crop in Argentina is smaller than average, but seed of the 1935 crop, which is expected to be harvested next January and February, may be available for export to this country in time for sowing next spring.

Exports of alfalfa seed from the United States for the calendar year 1933 were larger than usual, but smaller than the record exports (1,564,641 pounds) of 1932. In 1933, 1,198,796 pounds were exported, and during the first 9 months of 1934, 807,587 pounds were exported, compared with 396,340 pounds last year for the corresponding period.

Sales of alfalfa seed in the spring by retail dealers were about 5 percent larger than those in the spring of 1933, in contrast with the decreased sales of red clover, alsike clover, and sweetclover seed. The carry-over is the smallest in a number of years. Current prices of common alfalfa seed received by growers average about \$17 per 100 pounds, basis clean seed, compared with \$7.75 last year, \$7.50 in 1932, and \$14.90, the 5-year (1927-31) average. Prices to growers for Grimm alfalfa seed range mostly from \$24 to \$27, compared with \$9 to \$12 last year on October 15.

POTATOES

Potato supplies in 1935 probably as large or slightly larger than supplies grown in 1934 may be produced if average weather conditions prevail and these large supplies may offset any improvement in demand, if growers respond as they usually do to potato prices. A potato crop in 1935 as large as that produced in 1934 would return potato growers about the same low prices and incomes for the crop year 1935-36 as in the current 1934-35 season.

Although low potato prices may prevail from now until next spring, growers, if they respond to price as they have in the past, will be influenced by the favorable prices received for their 1933 crop and probably will decrease their 1935 acreage only by 70,000 acres or 2 percent of the acreage planted in 1934. This would make a total planted acreage of 3,313,000 acres in 1935. Average weather conditions would result in a yield of about 110 bushels per acre or a total production of about 365,000,000 bushels which is slightly more than the 1934 production of 362,391,000 bushels (as reported on Oct. 1) and above the 1928-32 average of 363,394,000 bushels. This is a larger crop than can be marketed to advantage and it now seems improbable that 1935 prices should be much above the low levels of the current season unless weather conditions will be unusually bad, or unless a substantial increase occurs in consumer demand. Six times in the last 10 years the total United States yield has been higher than 110 bushels per acre and yields of over 120 bushels have occurred twice in that period.

Prices so far this season, in the important intermediate and late-producing areas, have been very much below those of last season. This is due to the increased crop which more than offset the rise in consumer purchasing power. Prices received by producers in selected surplus-producing sections during October 1933 and 1934 (preliminary October average price), for United States No. 1 potatoes, bulk per hundredweight, averaged as follows: At Presque Isle, Maine, \$1.01, \$0.27; Rochester, N. Y., \$0.93, \$0.33; Benton Harbor, Mich., \$0.88, \$0.40; Waupaca, Wis., \$0.73, \$0.41; and at Idaho Falls, Idaho, \$0.58, \$0.48, respectively. At Presque Isle, Maine, and Rochester, N. Y., prices in October were respectively \$0.74 and \$0.60 lower than in October 1933. In Michigan they were \$0.48 less, in Wisconsin \$0.32 less, and in Idaho \$0.10 less. The smaller decline in Idaho was due to a smaller production in 1934 in the 10 Western States compared with that in 1933, and in contrast with increases in production in most of the other late Northern States. The present price relationships between these selected late producing areas may be maintained. No marked advance is anticipated in the prices of late potatoes during the 1934-35 marketing season.

Since the demand for potatoes is relatively inelastic (that is, small crops normally result in larger total returns to growers than do large crops), it appears that potato growers would benefit next year if they reduced their acreage more than is now indicated. Over the long time, it seems apparent that a stable acreage of around 3,000,000 acres, with yields varying from 100 to 120 bushels per acre and averaging about 110 bushels, would produce an ample supply of potatoes for all domestic requirements. The total United States production would then vary from 300,000,000 bushels in years of low yields to 360,000,000 bushels in years of bumper yields and would average, over a period of years, around 330,000,000 bushels. This average supply would result in fairly reasonable returns to the efficient growers in good locations. When more than 3,000,000 acres are planted, growers can expect low returns, unless yields are smaller than usual.

THE 1934 CROP

The October 1 forecast of the Crop Reporting Board places the 1934 United States potato crop at 362,391,000 bushels, compared with 320,353,000 produced in 1933, and with 363,394,000 bushels—the 1928-32 average production. The total 1934 crop in the 11 southern early States is estimated at 38,859,000 bushels, or 8,600,000 more than their 1933 crop. In the intermediate States the crop is estimated at 33,526,000 bushels, or 5,200,000 bushels more than in 1933, and in the 30 late States this year's forecast of 290,006,000 bushels is 28,300,006 bushels more than these States produced in 1933. In contrast with the distribution of the 1933 late crop, there are large crops in the Eastern and Central States and a small crop in the West. The 3 eastern surplus late-potato States have a prospective production of 110,690,000 bushels, or about 22,700,000 more than last year, while the 5 central surplus States expect a total of 88,956,000 bushels, about 17,100,000 bushels greater than in 1933. On the other hand, the 10 western surplus States have prospects of only 56,320,000 bushels this year, or 16,300,000 bushels less than in 1933. The 12 other late States have about 34,040,000 bushels this season, against 29,316,000 bushels last year.

Summarizing the late-crop situation, there are about 26 percent more potatoes in the eastern late States than there were in 1933; about 24 percent more in the Central States, but 22 percent less in the West. The larger potato markets are located in the Eastern and Central States, and it appears that they are well supplied for the coming winter and spring months.

Because of the apparent small supply of late potatoes in storage for the 1934 spring-marketing season, commercial potato growers in the southern early and intermediate States increased their plantings about 20 percent in 1934. Yields of commercial producers were about 15 percent above those of 1933 and, as a consequence, commercial production was increased about 37 percent or about equal to the 1928-32 average production of 42,127,000 bushels.

PROBABLE PRODUCTION IN 1935

The commercial growers in the first section of early States (Florida and the lower valley of Texas), produced a 29-percent larger crop than in 1933 but, on account of improved demand conditions and less competition from the old crop, they received slightly higher prices in 1934 than during the previous season. The October intentions-to-plant reports of the growers indicate that the 1935 commercial potato acreage in these earliest States may be increased by 9 percent over that planted in 1934.

In the second section of early States (Alabama, California, Georgia, Louisiana, Mississippi, South Carolina, and Texas, other than the lower Rio Grande Valley) commercial early acreage was increased 28 percent in 1934, yields were increased by 17 percent, and commercial production increased by almost 50 percent, amounting to 10,632,000 bushels, or about 20 percent more than the 1928-32 average production of 8,857,000 bushels. For 1935 a 2-percent decrease in acreage was indicated by these growers on October 1. The second early States (North Carolina, Oklahoma, Arkansas, and Tennessee) and intermediate States (Virginia, Maryland, Kansas, Kentucky, Missouri, New Jersey, and Nebraska) produced much larger crops than in 1933 and received very low returns. These growers on October 1 indicated their intentions to plant an acreage in 1935 about 5 and 6 percent, respectively, less than in 1934. It is probable that the stored supplies of old potatoes will be large throughout the winter and spring of 1934-35 and that they will have a depressing influence on the potato markets. Because of the low prices being received by producers in the 30 late States it is probable that the acreage planted in the late States next year, particularly in the eastern and central surplus-producing States, will be reduced slightly. The total United States potato acreage in 1935, therefore, is expected to be about 2 percent smaller than the 1934 plantings and may approximate 3,315,000 acres.

Assuming that the acreage now indicated is actually planted during the spring of 1935 and that average yields are obtained, the production of the commercial early, second early, and intermediate potatoes may total about 38,200,000 bushels, compared with 42,287,000 bushels in 1934 and 42,127,000 bushels, the 1928-32 average. With a large carry-over of old potatoes in prospect, it is probable that both the early and second early crops will be difficult to market at reasonably satisfactory prices. For the intermediate States prices depend

largely upon the size of the intermediate crop, so that any reduction in the crop in these States should result in higher prices than those received in 1934.

During the 1933-34 season the production of potatoes in the late States was reduced, largely because of low yields, and the returns to growers were the highest for several years. As a consequence, growers in these States increased their planted acreage in 1934 by 4.8 percent, the greatest increases coming in Maine, Wisconsin, Nebraska, Idaho, Wyoming, Washington, and California. This larger acreage, together with good yields, has resulted in greater-than-average production in nearly all except the Western States. For 1935 it is expected that the acreage in the late States will be reduced slightly, which, with average yields, would result in a production slightly greater than the 290,000,000 bushels grown in 1934, and a total United States crop of about 365,000,000 bushels, or about the same size as that harvested in 1934.

Exports of potatoes in the 1933-34 season (July-June) totaled 721,000 bushels, which was 250,000 bushels under last season and far below the 5-year average, 1926-27 to 1930-31, of 2,323,000 bushels. Imports of potatoes in 1933-34 were 2,102,000 bushels, compared with 440,000 bushels the preceding season and the 5-year average of 3,771,000 bushels. Increase in the potato imports was a result of the short United States potato crop in 1933.

Most of the potato exports go to Cuba, Canada, and Panama, and the imports come chiefly from Canada, Cuba, and the Bermudas. United States exports to countries of the south are largely for seed purposes, and the imports from Canada are mainly seed potatoes. Exports of potatoes from the United States are likely to be somewhat heavier in the 1934-35 season than during last season, and the imports smaller because of the large United States crop of 1934.

SWEETPOTATOES

Sweetpotato prices probably will average slightly higher during the 1934 season than during the last several seasons, largely because the general level of food prices is higher. Despite this slight improvement in prices, the total acreage grown in the United States in 1935 is expected to be about the same as in 1934. In the past the acreage in the southern cotton States, comprising about 87 percent of the United States total, has varied with the returns from the cotton crop, the sweetpotato acreage being reduced after a year of improvement in cotton prices and increased after a year of declining cotton prices. For 1935 this relationship would indicate that a decrease in the sweetpotato acreage is in prospect, but new factors entering into the cotton situation are likely to cause sweetpotato growers to plant about the same acreage in 1935 as they did in 1934. In the Middle Atlantic States, in Tennessee, and in the North Central States, where sweetpotatoes are grown largely for market, the higher prices in 1934 are likely to result in some increases in the 1935 acreage, but these increases will be small in terms of the total United States acreage. On the Eastern Shore of Virginia, where sweetpotatoes are commonly grown on the same farm with potatoes, the acreage of sweetpotatoes may be increased because of the decreased plantings of potatoes.

The sweetpotato acreage was increased slightly in 1934, owing to higher prices in the 1933-34 season and the tendency of farmers to produce more of their own food supply. There were slight decreases in the Middle and South Atlantic States, where the potato acreage was increased, but there were more than offsetting increases in the North Central and South Central States.

For the country as a whole, yields in 1934 are expected to average about the same as in 1933, which were the highest in any year since 1929. They are expected to be slightly higher than last year in the Middle and South Atlantic States but lower in the remainder of the sweetpotato-producing States, particularly in the drought States.

Production of sweetpotatoes for 1934 was forecast at 65,600,000 bushels on October 1, or about 600,000 bushels more than the 1933 crop and about 1,800,000 bushels more than the 1928-32 average production. In the Middle Atlantic Coast States production in 1934 was forecast at 7,200,000 bushels, compared with 7,600,000 bushels in 1933; in the lower Atlantic Coast States, 21,900,000 bushels in 1934 against 21,600,000 bushels in 1933; in the South Central States, 33,400,000 bushels against 32,600,000 bushels; and in the North Central and Western States, 3,200,000 bushels in 1934 against 3,300,000 bushels in 1933.

Sweetpotato prices declined sharply from 1929 to 1932, but advanced in 1933 until they reached the 1931 level. Owing to the rise in the level of food

prices in general, it is expected that 1934-35 sweetpotato prices will average slightly higher than in 1933-34. United States farm prices averaged 75 cents per bushel on October 15, 1934, compared with 63 cents a year earlier.

TRUCK CROPS FOR MARKET

The market outlook for commercial truck crops for fresh-market shipment during 1935 appears to be a little more favorable to growers than it has been for any season since 1931. With the level of wholesale food prices averaging about 15 percent higher than in the spring of 1934 and with smaller supplies of such staple foods as meat, dairy, and poultry products in prospect, it is probable that the demand for commercial truck crops will be somewhat improved, at least during the first half of 1935. During the latter half of 1935, unless there is an increase in consumer buying power, it is expected that the level of prices will be adjusted chiefly on the basis of changes in the supplies available for market, a larger production tending to lower the prices below the 1934 level and a smaller production favoring an improvement in prices.

Commercial supplies of late cabbage, onions, potatoes, and sweetpotatoes are generally larger this season than in 1933, and the carry-over of these crops is expected to offer more competition to early 1935 spring-grown vegetables. However, the total production of vegetable crops in home and local gardens, particularly in the drought-stricken States, has been decreased, and the quantity of home-canned and home-stored vegetables for winter and early spring consumption was less than during the last several years. While buying power is very limited for many whose home food supply is extremely low this year, the general shortage of locally grown foodstuffs will result in some expansion of demand for shipped-in supplies until home and local gardens again come into production next summer. Hence, if the commercial production of early vegetables in 1935 is not expanded beyond that of recent years, it seems probable that improved prices will permit growers to market more nearly the entire early commercial supply than has been true in any of the last few seasons, when appreciable quantities of some crops were left in the field because growers could not afford to harvest them at prevailing market prices.

The reports so far received from Florida, Texas, Arizona, California, and a few other early sections indicate that the combined acreage of 11 vegetables for harvest in the late fall and winter of 1934-35 in these States will be larger than the early acreage of the 1933-34 season by more than 10 percent and will exceed the average of the five previous seasons by 25 percent. The acreage of nearly every one of these vegetables will be above the average. Although these fall and winter acreages represent only a small proportion of the total early acreage, they do indicate that the supplies from the early areas probably will be ample.

During the 1934 season the total production of 17 important truck crops for fresh-market shipment increased about 9 percent from the relatively small production in 1933. Production in 1934 was slightly below the record high production in 1932. In terms of the 1924-29 average, production of these 17 vegetables is estimated at 117 percent, compared with 107 percent in 1933, 119 percent in 1932, 117 percent in 1931, 118 percent in 1930, and 114 percent in 1929. It appears that the steady expansion in the production of these crops, which was interrupted in 1933, has been resumed.

The increase in production of these vegetables in 1934 was due both to an increase in acreage and to larger yields per acre. Most of the important producing centers of these commercial vegetables were not encompassed in the 1934 drought area but several important western areas were handicapped by a shortage of irrigation water. Total acreage planted to these crops was 6 percent larger in 1934 than in 1933, which was about 10 percent below the record high acreage of 1932. During the last 15 years the trend of acreage of these commercial vegetables has been sharply upward, with the only major reversal occurring in 1933 when the acreage was decreased 10 percent. From 1923 to 1932 the average rate of increase was about 7 percent per year. In 1934 the acreage of 17 truck crops for fresh-market shipment totaled 1,380,000 acres compared with 1,300,000 acres in 1933 and 1,430,000 in 1932, the record high for these vegetables. The only major acreage decreases in 1934 occurred in the case of cauliflower, eggplant, peas, peppers, spinach, and cantaloups; there were substantial increases in the acreages of nearly all of the others.

Yields per acre of commercial truck crops for fresh-market shipment in 1934 were about 4 percent higher than in 1933. The trend of per-acre yields of these vegetables has been downward for the last 15 years, reaching a record low in 1933. Average yields per acre declined about 20 percent during the decade ended in 1931 but since 1931 the rate of the decline has been much slower. Since the average yield per acre in 1934 was somewhat higher than for the previous 3 years and almost as high as in 1930, it seems probable that the rapid downward trend has been checked.

The average value per acre of commercial truck crops, although estimated to be larger than during the 1933 season, maintains the low level that has existed since 1931. The average gross return to growers of these commercial truck crops was approximately \$106 per harvested acre in 1934 compared with less than \$101 in 1933 and \$96 in 1932, the low point of recent years. The decline in value per acre from \$175 in 1929, to \$142 in 1930, to \$118 in 1931, and to the low figures of recent years parallels largely the general sharp decline in prices resulting from greatly reduced consumer purchasing power. During the early 1920's, the value per acre of the 17 commercial truck crops for shipment was about 125 percent of the 1924-29 average but with a general lowering of both yields and prices it had declined to only 65 percent in the early 1930's. The net returns to growers were probably less in 1934 than in 1933 because of increases in costs of production and marketing.

VEGETABLE IMPORTS AND EXPORTS

The United States trade in vegetables has declined since the 1929-30 season—in imports as a result of the higher duties under the Tariff Act of 1930; in exports as a result of higher tariffs in Canada and other nearby countries; and in both imports and exports as a result of the world-wide business depression.

Imports of vegetables, excluding potatoes and dried vegetables, amounted to 33,500 short tons in the 1933-34 season (July to June) compared with 95,800 tons in the 5-year period 1926-27 to 1930-31. Exports in 1933-34 amounted to around 45,000 short tons compared with 82,500 tons during the same 5-year period.

The chief source of winter vegetables has generally been Mexico but of the 33,500 short tons imported in 1933-34, Cuba supplied 59 percent, Mexico 34 percent, and all other countries, 7 percent. Canada is the chief outlet for winter vegetables with small quantities going to a number of nearby countries like Panama, Mexico, Cuba, Newfoundland, and Labrador.

Some increases in the imports of vegetables from Cuba may be expected as a result of the reduction in the United States duties for certain periods in the winter under the Cuban trade agreement. The amount of increase in shipments of winter vegetables from both Cuba and Mexico will depend largely on the price situation in the United States. With average or larger plantings of most vegetables in the United States, it is not probable that market conditions will improve sufficiently to attract much larger imports.

CABBAGE

The United States cabbage acreage of 175,890 acres in 1934, including that grown for sauerkraut, was about 41 percent larger than the acreage of 1933 and 22 percent larger than the 1928-32 average acreage. The larger acreage in 1934 resulted primarily from the favorable returns to growers for the late crop of 1933. This increased acreage, together with a 17-percent increase in yields, resulted in a 65-percent increase in production over the relatively small 1933 crop. Total production in 1934, including cabbage grown for sauerkraut, is indicated at 1,195,700 tons against 723,500 tons produced in 1933 and 1,010,300 tons, the 1928-32 average. A surplus supply of cabbage was available for market throughout the 1934 season, and prices averaged about 50 percent less than the 1933 prices. These lower prices are expected to cause a considerable decrease in the 1935 planted acreage in all groups.

In the early States (California, Florida, Louisiana, and Texas) it is probable that the acreage planted for the 1935 spring market will be decreased materially from that grown in 1934. In the light of past experiences it seems probable that an acreage about 40 percent smaller than that grown in 1934, or 35,000 acres, would produce, with average yields, about as large an early-cabbage crop as can be marketed at prices approaching the level of those in 1933. This is

particularly true when the prospective large carry-over stocks of late Danish cabbage are taken into consideration. Prices to growers in 1934 averaged only \$9.70 per ton against \$13.40 in 1933, and considerable quantities of the 1934 crop had to be left in the fields unharvested because of poor market conditions. The large 1934 crop of Danish cabbage in the late States indicates that large storage supplies of cabbage will be available next spring, which will offer severe market competition to the early crop. The acreage in these early States was increased from 30,900 acres in 1933 to 58,550 acres in 1934, yields were 0.8 ton higher, and production was, therefore, increased from 149,600 tons in 1933 to 326,500 tons in 1934. The 5-year average production is 208,900 tons.

In the second-early States (Alabama, Georgia, Mississippi, North Carolina, South Carolina, and eastern Virginia) the prospects are for a slight decrease in acreage in 1935, largely because the prices received for the 1934 crop were very low, and considerable quantities of cabbage had to be left unharvested in the fields. With the prospect that the early acreage will be reduced considerably, it is probable that a reduction of only 20 percent from the large 1934 acreage would be enough in the second-early States. This would reduce the acreage grown for market to 12,000 acres which, with average yields, would produce about 68,000 tons, or about as much as can readily be marketed at appreciably higher prices to growers than in 1934 and nearer the 1933 level. Prices in the second-early States in 1934 averaged only \$8.30 per ton compared with \$26.20 per ton in 1933, and \$33.50, the 1928-32 average. In 1934 the second-early acreage was increased 11 percent, to 15,300 acres, and yields averaged 5.3 tons per acre compared with 4.7 tons in 1933. Production in 1934 totaled 80,400 tons as compared with 64,600 tons in 1933 and the average production of 78,800 tons for the period 1928-32.

Prices in 1934 were also relatively low in the intermediate States (Arkansas, Illinois, Iowa, Kentucky, Maryland, Missouri, New Jersey, New Mexico, Tennessee, Washington, New York (Long Island), and parts of Ohio and Virginia), and it is expected that the 1935 cabbage acreage in these States will be reduced slightly below that grown in 1934. A reduction of 20 percent from the 1934 harvested acreage, or an acreage of approximately 20,000 acres, with average yields would produce an intermediate crop about as large as could be marketed at prices approximating the average of the recent 5 years. Per-acre yields have been low during the last 3 years and have reduced production, but it is not probable that such low yields will again be obtained in 1935. Intermediate crop prices averaged only \$16.60 per ton, compared with \$23 per ton in 1933 and \$18.90, the 5-year average, 1928-32. During 1934 the acreage in these States was increased about 12 percent, to 24,790 acres. Yields in 1934 averaged about the same as in 1933, but, because of the increased acreage, production was increased about 13,000 tons, to about 136,600 tons. The 5-year average production for these States is 153,200 tons.

Production of domestic and Danish types of cabbage in the late States, including cabbage for sauerkraut, totaled 644,600 tons in 1934, compared with 380,700 tons in 1933, and 563,500 tons as the 1928-32 average. Because of relatively high prices received for the 1933 crop, the 1934 acreage of domestic-type cabbage was increased about 33 percent and the Danish type about 36 percent. Yields of both types in 1934 were well above those of 1933, averaging 8.1 tons per acre for the domestic type and 8.8 tons for the Danish types. The 1934 production of domestic cabbage in the late States was forecast on October 1 at 313,900 tons, compared with 181,600 tons in 1933. As a result of this much larger production, prices to growers average only about \$8.50 per ton compared with \$14.70 in 1933 and \$9.50 as the 1928-32 average. These lower prices in 1934 are expected to cause growers of domestic-type cabbage to plant a smaller acreage in 1935. It appears that about 29,000 acres, with average yields, would produce a domestic-type crop of 241,000 tons or a crop large enough to supply market requirements at prices approximating the average of the recent 5 years.

The 1934 production of Danish-type cabbage is expected to total 330,700 tons, compared with 199,100 tons in 1933 and 275,000 tons as the 5-year average, 1928-32. This larger supply in 1934 is bringing much lower prices than were received for the small 1933 crop. The early-season prices of Danish-type cabbage averaged \$4 per ton, compared with \$16.90 in 1933 and \$12 as the 1928-32 average. Judging from what has happened in the past, the lower prices being received for the 1934 crop are likely to cause growers of Danish-type cabbage to decrease their 1935 plantings considerably. About 28,000 acres, or a reduc-

tion of 25 percent from that grown in 1934, with average yields, would produce a late Danish crop of 224,000 tons. This production appears to be about all that could be marketed in 1935 at prices approximating the 1928-32 average.

TOMATOES

With a record commercial acreage in 1934 and heavier yields than in 1933, a record crop of tomatoes was produced and it furnished larger domestic supplies throughout most of the 1934 season than prevailed in 1933. Growers in the early and the late groups of States received higher prices for their larger 1934 production, and those in the intermediate States disposed of their larger crop at about the same price level as in 1933. The early crop movement was favored by the reduced competition from imports of fresh tomatoes, representing primarily a further sharp decrease in the Mexican shipments. The increased intermediate and late-crop production was favored by an expanded market arising chiefly from the failure of many home and local gardens in the drought era of 1934. The second-early States developed the one difficult situation of the 1934 season with a record-breaking production, an unequaled low-price average, and large quantities of tomatoes left in the field. In all except this second-early group of States, there is danger that growers will be encouraged by the 1934 prices to plant too large an acreage in 1935. In that event, they may produce excessive market supplies without the benefit of some of the circumstances that were unusually favorable to the marketing of the commercial crop in 1934.

The tomato acreage grown in Florida and Texas in the fall of 1933 to furnish market supplies in the fall and winter months, beginning in November, amounted to 4,300 acres, a 30-percent reduction from the unusually large acreage in the fall and winter of 1932-33, but 7 percent larger than the average of the five previous seasons. The yields were extraordinarily good on this reduced acreage, and production amounted to 330,000 bushels, exceeding the previous season's crop by more than one-third. With less competition from tomato imports, this larger fall crop found a market at substantially the same level of prices as prevailed the year before. The fall-crop planting for 1934-35 is reported to be 8,500 acres, 98 percent more than a year ago, and a record fall-crop acreage.

The early 1934 or spring-crop acreage of tomatoes in south Florida was increased to 15,000 acres (16 percent larger than in 1933), and with per-acre yields averaging higher than usual and slightly better than in 1933, the 1934 production of 2,000,000 bushels was 18 percent larger than in 1933. Chiefly because of the reduced imports from Cuba and Mexico, this larger south Florida spring crop returned the growers a higher price than was received in any of the three preceding seasons when the production was very much smaller, but when imports were in greater volume. The spring-crop acreage in the other early areas (other sections of Florida, the Imperial Valley of California, and the lower valley of Texas) was reduced 7 percent below the 1933 acreage to 23,600 acres. The yields per acre on this reduced acreage averaged above the low 1933 yield. Production was estimated to be nearly 1,800,000 bushels, or about 4 percent greater than in 1933, although it was about 13 percent below the average crop of the preceding five seasons. These spring-crop tomatoes likewise brought the growers much higher prices than were realized in 1933, and nearly as high as were received in 1932 when the crop was 26 percent smaller.

Decreased imports of fresh tomatoes were an important factor in the improved domestic-market situation in the winter and spring months of 1933-34. Imports from Cuba were about equal to those of the two previous seasons, but imports from Mexico, which has usually been the principal source, were reduced to about 58 percent from the previous season's imports and were nearly 85 percent less than in the 1931-32 season. The total imports of fresh tomatoes during the 1933-34 season (July to June) were equivalent to about 820,000 bushels (of 53 pounds), which was considerably less than the total of about 1,100,000 bushels imported the preceding season and far below the 2,400,000-bushel average annual importation during the 5-year period ended with the 1930-31 season. The heavy decline in tomato imports dates from the 1931-32 season and is a result of low consumer purchasing power in the United States and the increase in the duty from one-half cent to 3 cents a pound in

the Tariff Act of 1930. The decrease has occurred mainly in the shipments from Mexico. Imports from Cuba, the other principal source, have been fairly well maintained. Early reports from Cuba indicate that plantings are expected to be a little heavier than in 1934. A lower duty will be in effect on Cuban shipments during the winter of 1934-35 which will favor increased Cuban imports. No definite information has been received regarding prospective 1934-35 production in Mexico. Unless prices in the United States are substantially higher than during the 1933-34 season, it is uncertain whether imports of Mexican tomatoes will be very much heavier in 1934-35 than they were the preceding season.

The second-early tomato sections in 1934 (Georgia, Louisiana, Mississippi, South Carolina, and Texas other than lower valley) increased their acreage 20 percent over that of 1933 to a record of 40,800 acres, slightly exceeding the previous high of 1932. Per-acre yields in 1934 were nearer the average of years prior to 1932, in contrast with the unusually low 1932 and 1933 yields. Production attained the record total of 4,100,000 bushels. Prices declined 57 percent below the 1933 average and 35 percent below the previously recorded low level in 1931. Approximately 20 percent of the Mississippi and Texas production was left unharvested. The second-early group of States has displayed a steady tendency toward expanding acreage and production in the last decade, and a corresponding downward trend in prices has resulted. Unusually large acreage and good yields in these States have combined at times to produce a much larger supply than the markets can absorb at a price high enough to repay the growers for growing and harvesting the crop. With the same yield as in 1934, an acreage no larger than that harvested in 1933, or one from 15 to 20 percent smaller than in 1934, would be sufficient to produce an ample market supply from the second-early States. Furthermore, the returns received by growers for this smaller production would be much better than in 1934 and probably close to the average returns of the 1932 and 1933 seasons.

Acreage in the intermediate States in 1934 (Arkansas, Maryland, Missouri, New Jersey, North Carolina, Tennessee, Virginia, and parts of California, Ohio, and Illinois) was also increased to record proportions—to 43,500 acres, or 17 percent more than in 1933. Per-acre yields averaged lower than usual in most of the States, especially those in the drought area. Production was estimated to be 9 percent greater than in 1933, or 4,800,000 bushels. The failure of home and local gardens in the central area created an additional demand for this increased summer production and helped to move the crop at prices no lower than the average of 1933 prices, which established a low record. With a more nearly normal situation in 1935 in regard to home and local gardens, it is quite probable that the commercial-market tomato acreage in the intermediate States, unless reduced 10 percent or more from the high level of 1934, would result in an excessively large crop that would bring the growers even lower prices than in the last two seasons.

The shortage of locally produced tomatoes also created a favorable market situation for the commercial supply of tomatoes produced in the late States in the 1934 season. The acreage in these late areas, other than southern California (Colorado, Delaware, Indiana, Iowa, Kentucky, Michigan, New York, Oregon, Pennsylvania, Utah, Washington, and parts of California, Ohio, and Illinois), was increased to 33,200 acres, which was nearly 6 percent larger than in 1933. Although yields were indicated to be slightly below average, production was apparently over 4,400,000 bushels, or a little larger than the 1933 production, and about 10 percent above the average of the previous 5 years. Prices on this larger crop appear to have averaged about 22 percent higher than in 1933. The 1934 late acreage in southern California amounts to 7,300 acres, or about 7 percent larger than the previous year, but yields are indicated to be correspondingly lower than in 1933, and production no larger. In the main group of late commercial States, an acreage and a production in 1935 no larger than in 1934 would probably experience a marketing situation not quite so favorable as in 1934. Under such circumstances, prices would probably average below those of 1933 and possibly range close to the extremely low 1932 price.

ONIONS

Following the record large crop and record low prices of the year 1932, onion growers in the late States in 1933 reduced their acreage more than 10 percent from the 1932 peak. This reduced acreage produced a moderate yield and close

to an average crop and restored prices to the level of recent years other than 1932. In 1934 the late-onion growers increased their planted acreage 10 percent or more over that harvested in 1933, but there was considerable loss of plantings, particularly in the Central States, as a result first of freezes, frosts, and high winds in May, and then of hot, dry weather during late May and early June. There was much replanting of acreage, in some areas acreage was replanted 2 or 3 times. The acreage eventually grown to harvest—46,800 acres—was about 8 percent smaller than in 1933, but according to harvest reports early in October, the per-acre yields were somewhat better than the average usually expected in the late States. The indicated 1934 production of 16,100,000 bushels in the late States just about equals that of a year ago and prices to date have been ranging very close to those of 1933. These prices may tend to encourage late-onion growers to expand their plantings again and therefore there is danger of excessive overplanting in 1935. Ordinarily, with the usual combination of weather conditions, a little less than 50,000 acres (or an acreage perhaps midway between that of 1933 and 1934) will produce an ample supply of late onions to meet consumption requirements and would probably prove to be most favorable to growers in maintaining prices at or above the 1933 and 1934 level.

In the spring of 1934, the areas producing early Bermuda or Creole onions (in California, Louisiana, and Texas) had 24,100 acres of this early crop which comes on the market heavily in April when the movement of storage supplies from the late States diminishes. This 1934 acreage was about 6 percent more than the average acreage of early onions from 1928 to 1932 but was nearly one-fourth larger than the reduced acreage of early 1933 when hold-over supplies from the large 1932 crop of late onions greatly depressed prices. The supply of late onions just before or at the time the early crop starts to market has a decided effect upon the early-onion market and prices. The yields of early onions averaged unusually low in 1933 and were not very much better in 1934, so that the early-onion crop of 3,600,000 bushels in 1934, although nearly one-third greater than the year before, was still one-fifth smaller than the average crop of the five preceding seasons. Supplies of old onions were a little heavier than average but were considerably reduced from the burdensome holdings of the year before. Prices of early onions were about the same as in 1933, when a record low point was reached. About 18 percent of the 1934 Texas crop was left in the field unharvested. In the face of a late-onion supply about equal to that of the previous year, growers in the early States can probably improve their returns in the spring of 1935 only if they reduce their acreage by 10 to 15 percent, especially in view of the possibility that the yield per acre may be larger than in either of the last two seasons.

The intermediate States (California, Iowa, Kentucky, New Jersey, Texas, Virginia, and Washington) increased their acreage in 1934 to the record level of 11,500 acres and obtained per-acre yields somewhat below average, but they produced a crop of domestic onions that was 17 percent larger than in 1933 and slightly in excess of the record crop of 1932. In view of the size of the crop in these States—aggregating 3,100,000 bushels—the 1934 prices were maintained surprisingly well compared with other recent years, possibly owing in part to a broader demand arising from failure of local garden supplies during the summer months. The returns of last season may cause growers to favor a further expansion of acreage in 1935, but if this increase occurs prices and growers' incomes may be lower in 1935, since the per-acre yield can normally be expected to surpass that of 1934, and would result in relatively greater production in 1935 than would occur from the acreage increase alone.

EXPORTS AND IMPORTS

Onion exports totaled 375,000 bushels in the 1933-34 season (July-June) compared with 541,000 bushels in the previous season and the 5-year average of 593,000 bushels for the seasons 1926-27 to 1930-31. The United States exports onions chiefly to Cuba, the Philippines, Canada, Panama, and Mexico. Small quantities are sometimes shipped to Australia and New Zealand. Exports in 1934-35 are not likely to vary greatly in quantity from those of last season.

Imports of onions in 1933-34 amounted to 86,000 bushels compared with 86,000 bushels in 1932-33 and an average of 1,448,000 bushels annually during the previous five seasons. Spain formerly supplied large quantities of onions to the United States markets, but at present Chile and Egypt are among the

chief sources of supply. Unless the duty is lowered substantially, imports of onions probably will show little increase.

WATERMELONS

The higher prices received by growers for the commercial watermelon crop of 1934 are likely to encourage an expansion of acreage in 1935—particularly in the second-early States—which may result in excessive production and a substantial reduction in growers' income from that of 1934.

Materially reduced watermelon acreage and very low yields held commercial production during the 1933 and 1934 seasons at a point approximately 30 percent below the average crop from 1928 to 1932. It was during this latter period that prices declined steadily and sharply from over \$170 per 1,000 melons in 1928 and 1929 to the low price of \$80 in 1932, primarily because of the decreasing purchasing power of consumers. Prices received by growers in 1933 and 1934 averaged nearly 20 and 40 percent, respectively, above the 1932 price. If these price increases have the expected influence on planting operations, and if yields are nearer the usual average, there is a probability that the resulting increase in acreage and production in 1935 may develop a marketing situation about as discouraging as that of 1932.

The increase in 1934 prices occurred in the second-early and the late producing States where the shipping season extends from June into September. The largest increase in price was obtained in the second-early States, which move the bulk of their crop to market during July. A decrease in price occurred in the early States where peak shipments ordinarily occur during June. Total car-lot shipments from all groups of States during the 1934 season were 4 percent less than those of 1933.

The early acreage in Florida and California in 1934 was estimated to be 31,500 acres, or 5 percent larger than the 1933 acreage, but 27 percent below the 5-year average of 1928-32. The average yield per acre in California was unusually heavy, but the Florida yield was the smallest in years, owing to heavy June rains. Production of the early crop amounted to 9,600,000 melons, or was 9 percent larger than the 1933 production in these two States, but 38 percent under the 5-year average. Prices to growers averaged 14 percent less than the 1933 prices and 26 percent below the 5-year average, being lower for both States. In California the lower price may be accounted for by a 34-percent increase in production. In Florida the lower prices in 1934 for a crop 11 percent smaller than in 1933 are chiefly explained by the poorer quality of the June shipments from Florida and by the earliness of the crop movement from Georgia in heavier competition with late shipments from Florida. In 1934, 41 percent of the Georgia shipments moved during June, when the bulk of the Florida crop ordinarily goes to market, compared with 34 percent in 1933 and with an average of 25 percent during June of the preceding five seasons.

In the second-early States (Alabama, Arizona, Georgia, Mississippi, North Carolina, South Carolina, and Texas) the 1934 plantings amounted to nearly 130,000 acres, or about 21 percent more than in 1933. There were material losses of acreage in Georgia (a loss of 10,000 acres, or 17 percent) and in South Carolina (5,000 acres, or 26 percent) owing to disease and heavy rain damage. There was also some loss in Mississippi, where the 1934 plantings were more than three times as large as the 1,000 acres grown in 1933. Of the 130,000 acres planted in 1934 in the second-early States, 114,000 acres were harvested. This represented an increase of 6 percent over the acreage harvested in 1933, but a decrease of 18 percent from the average of the 5 preceding years. With a relatively small yield per acre on this acreage, production in 1934 totaled 22,900,000 melons, or 5 percent less than the 1933 production and 41 percent less than the average production of the previous 5 years. The average price to growers was 42 percent higher than the 1933 price and exceeded the 5-year average by 2 percent. The factors that were apparently chiefly responsible for the increased price were the lighter shipments in July and the exceptionally hot weather in the northern markets in June and July, when the bulk of shipments from the second-early States comes on the market. Unless watermelon growers in the second-early States consider the possible disastrous outcome of further acreage expansion in 1935, the improved returns for the 1934 crop may exert such a strong influence upon their 1935 planting plans that they will plant even more acreage than in 1934. This acreage would approach the level of the years 1930 to 1932, when the precipitous decline in watermelon prices occurred.

If the low per-acre yield of 1934 happens to be exceeded in 1935 by as much as can reasonably be expected, even though the 1935 acreage is no larger than the 114,000 acres harvested in 1934, a crop at least 15 to 20 percent larger than that of 1934 would result, and might depress prices as much as 25 percent below the 1934 prices. Melons of better quality than those of the 1934 crop, hot weather in the consuming markets when the crop moves in volume, and any improvement in consumer purchasing power would be factors favorable to a smaller price decline for the larger crop.

In the late group of States (Arkansas, California, Colorado, Delaware, Illinois, Indiana, Iowa, Maryland, Missouri, New Jersey, Oklahoma, Oregon, Virginia, and Washington), where the harvesting season extends from late July into September, the 51,620 acres grown in 1934 represented a 6-percent increase over the 1933 acreage and a 17-percent increase over the average of the preceding 5 years. Although the estimated 1934 production of 17,400,000 melons was a little larger than the 1933 production in these States, and 8 percent above the 5-year average, the average price to growers in 1934 was 11 percent higher than the low level of 1933. The late States increased their acreage of watermelons substantially between 1928 and 1932, but during the 1933 and 1934 seasons the acreage was held slightly below the 1932 peak. These reduced acreages, with below-average yields in 1933 and 1934, resulted in smaller crops selling at prices averaging higher than the record low price of 1932 by 13 percent in 1933 and 25 percent in 1934. With the prospect that per-acre yields may be somewhat better in 1935, growers of watermelons will run the risk of a much lower income next season if further acreage increases are made.

TRUCK CROPS FOR COMMERCIAL MANUFACTURE

If the current prices of canned goods have their usual influence upon canners when planning the acreage of canning vegetables to be grown in 1935, the growers of these vegetables may have the opportunity of securing contracts for a nearly record acreage in 1935 at prices about equal to or above those received in 1934. Since 85 to 90 percent of the total acreage of commercial canning vegetables is ordinarily contracted or grown under the control of canners or packers themselves, the determination of the acreage to be grown in 1935 rests almost entirely in their hands.

No appreciable increase in the acreage for the 1935 season seems justified when it is considered that the 1934 acreage of canning vegetables was the second largest on record and that this acreage, under average growing conditions, would have produced a pack that might have proved burdensome—perhaps 15 to 20 percent larger than that actually obtained and close to the 1930 pack, which was the second largest on record. Disastrous growing conditions in many areas during the 1934 season reduced the yield per acre to the lowest level on record and eliminated the threat of excessive supplies. As a repetition of the 1934 growing conditions seems improbable in 1935, it would appear more reasonable for packers and growers to assume average yields per acre in planning their 1935 acreages than to be guided by the extremely low yields of the 1934 season. Acreage should be determined, as far as possible, by probable consumption requirements for the several crops during the 1934-35 and 1935-36 marketing seasons. The probable level of consumer purchasing power, size of the 1934 packs, carry-over, and, to some extent, competition of fresh vegetables and home canning, are the main factors to be considered.

The total pack of commercially canned vegetables in 1934, as indicated by preliminary estimates, is expected to be somewhat larger than the small pack of 1933, but slightly below the average of the previous 5 years. Although there were unusually small carry-over stocks at the beginning of the 1934-35 marketing season, total supplies are about equal to the average of the last three seasons. Domestic demand for most canned vegetables improved during the 1933-34 marketing season and, although considerably below normal, is likely to average somewhat above that of the preceding season. A factor tending to increase the demand for commercially canned vegetables is the failure of home gardens and the restricted pack of home-canned vegetables in the drought-stricken areas. Under these conditions it appears that wholesale prices of canned vegetables will continue at a relatively high level throughout the 1934-35 marketing season and that contract prices to growers of vegetables for manufacture in 1935 will be maintained or increased over the 1934 levels.

Since 1918 the acreage of commercial canning vegetables has expanded and contracted in a more or less regular cycle, contraction of acreage following the

accumulation of large carry-over and expansion occurring when these stocks became relatively small. During recent years the acreage has tended to decrease for 2 years following a peak, and to expand during the next three seasons to another peak. Following the record-breaking 1930 acreage (1,329,000 acres) of eight principal canning vegetables (asparagus, snap beans, cabbage for sauerkraut, sweet corn, cucumbers for pickles, green peas, tomatoes, and spinach) the acreage declined during the next two seasons to a low of 757,000 acres in 1932. This low acreage was followed by 2 years of increases, with the 1934 plantings reaching a total of 1,187,000 acres, or within 12 percent of the record high acreage of 1930. Judging from the history of the period from 1925 to 1930, it appears probable that the acreage of 1935 will be larger than of 1934, and may equal or exceed the acreage of 1930 unless packers make a concerted effort to hold it within present limits.

Although the 1934 acreage of these eight crops was increased 36 percent over the 1933 acreage and 18 percent over the 1924-29 average, the index of total production on this acreage is only 18 percent above the light production of 1933 and is 7 percent below the level of production for the 1924-29 period. Drought and heat damage in many areas resulted in the lowest yield per acre on record and averted the possibility of burdensome surpluses on several of these crops. Among the crops most seriously affected by unfavorable weather conditions were green peas, sweet corn, tomatoes, and cucumbers for pickles. But as a result of increased acreages the indicated production on all commercial canning vegetables, except asparagus, is larger than the 1933 production. Compared with the 5-year average production of 1928-32, however, asparagus, green peas, snap beans, cucumbers for pickles, spinach, and sweet corn show decreases of 5 to 23 percent. Cabbage for sauerkraut and tomatoes are 2 and 8 percent, respectively, above the 5-year average productions. Increases over the 5-year average productions are also indicated for the less important crops of green lima beans, beets, and pimientos.

Information on the average prices to growers for the 1934 season is not yet available, but judging from past relationships between contract prices to growers and prices received by packers for canned vegetables during the preceding December, January, and February, the level of prices to growers for vegetables for canning during the 1934 season probably averaged higher than the 1933 prices. The index of prices to growers in 1934 of the eight principal canning vegetables may average 75 to 80 percent of the 1924-29 level, compared with 70 percent in 1933, 66 percent in 1932, 84 percent in 1931, and 99 percent in 1930.

The total gross value to the grower was closely associated with total production from 1920 to 1930, inclusive, the amount of money received by growers for their crops rising and falling in proportion to the size of production. In 1931, however, a decrease of 30 percent in production was accompanied by a decline of 40 percent in value; and in 1932 a decrease of 20 percent from the previous year's production was accompanied by a 38-percent drop in total value, prices to growers of canning vegetables during these depression years declining more rapidly than wholesale prices of most canned vegetables. With the expansion of acreage in 1933, an increase of 10 percent in production was accompanied by a rise of 18 percent in total value, production in 1933 reaching to 79 percent of the 1924-29 level, while total value rose to 56 percent of the value for the same base period. The 1934 production is expected to reach 93 percent of the 1924-29 average, with a probability of total value reaching 70 to 75 percent of the 1924-29 level.

SNAP BEANS FOR CANNING

The prices received by packers of canned snap beans depend to a large extent upon factors other than the size of supplies, such as changes in consumer purchasing power and prices of competing canned vegetables and the production of snap beans for the fresh market. Contract prices to growers of snap beans for canning, in turn, are influenced by the level of wholesale prices of the canned product during the December and January preceding the growing season. Although the production of snap beans for the fresh market during the fall, winter, and spring of the 1934-35 season is expected to be less than the peak production of 1934, the supply of canned snap beans available for 1934-35, in view of existing consumption requirements, indicates that a smaller acreage than planted in 1934 would produce enough to meet consumption requirements of the 1935-36 season.

In spite of a reduction in packs and in total supplies since 1929 and 1930, prices received by canners declined to a low point in 1932 and have recovered

during 1933 and 1934 to only 71 percent of the 1924-29 level. Contract prices to growers declined even more sharply than the price of canned snap beans and reached a record low point in 1932. In 1933 the contract price was only slightly higher than in 1932. Information on the 1934 average price to growers is not yet available, but, judging by the increase in the price of canned snap beans in the December and January preceding the 1934 season, the 1934 price to growers should be higher than the exceptionally low points of 1932 and 1933.

On an acreage 20 percent larger than that of 1933, but 10 percent below the 5-year average of 1928-32, the preliminary estimate of production of snap beans for canning in 1934 is 9 percent larger than the 1933 production, but is 11 percent below the 5-year-average production. The 1934 production may be equivalent to a total pack of nearly 6,000,000 cases of 24 no. 2 cans. In 1933 the pack reached a total of 5,532,000 cases, and for the 5-year period, 1928-32, it averaged 6,617,000 cases. Total supplies for the 1934-35 season, including carry-over, will probably be close to 6,700,000 cases. Supplies are estimated to have been 6,200,000 cases in 1933-34, 5,400,000 cases in 1932-33, and 7,600,000 cases in 1931-32.

Disappearance from canners' hands during 1933-34 was probably around 5,500,000 cases; in 1932-33, 4,700,000 cases; and in 1931-32, 6,200,000 cases. Carry-over at the beginning of each of the 1932-33 and 1933-34 seasons was probably around 700,000 cases, compared with 1,400,000 and 1,500,000 cases at the beginning of the two previous seasons.

Should consumption during the 1934-35 season approximate the average of 5,500,000 cases of the last three seasons, the prospects are for a carry-over of about 1,200,000 cases into the 1935-36 season. A carry-over of 1,200,000 cases at the end of the 1934-35 season probably would prove burdensome if combined with a 1935 pack the same size as that expected in 1934. A pack not in excess of 5,000,000 cases in 1935 probably would be sufficient to meet consumption requirements in 1935-36 under the existing demand conditions and leave a carry-over in line with that of the last two seasons. A planting of approximately 42,000 acres, or 15 percent less than the 1934 acreage, under average growing conditions, would give a pack of 5,000,000 cases.

SWEET CORN FOR CANNING

With a light supply of canned sweet corn in sight for the 1934-35 marketing season, prices received by canners for canned corn will probably continue at the present relatively high levels, and growers of sweet corn for canning may be in position to contract tonnage in 1935 at prices equal to or exceeding those received for their 1934 production. In the light of present consumption requirements, however, and considering the production possibilities under more favorable growing conditions than existed in 1934, a 1935 acreage in excess of the 1934 plantings probably would lead to lower prices to canners for the 1935 pack. This situation would place growers in a less advantageous position to contract tonnage in 1936 at favorable prices.

Information is not yet available on the average price paid to growers for the 1934 crop, but, judging by the past relationship between contract prices to growers and prices received by canners during the December and January preceding the crop season, the 1934 price to growers will probably average higher than the low prices of 1933 and 1932. In past years the contract price to growers has tended to follow the fluctuations of wholesale prices of canned corn in December and January, these prices evidently reflecting the size of supply, the level of consumer purchasing power, and competition with fresh vegetables and home canning.

Preliminary estimates indicate a total pack of canned sweet corn in 1934 of 11,000,000 to 12,000,000 cases of equivalent no. 2 cans, 24 to the case. In 1933 the pack totaled 10,193,000 cases, and for the 5-year period 1928-32 it averaged about 15,300,000 cases. These figures do not include the pack of field corn, which in 1934 is expected to be larger than usual in some areas where the sweet-corn crop was curtailed by the drought.

The total supply of canned sweet corn for the 1934-35 season, including carry-over stocks on August 1, was probably close to the total supply of 12,700,000 cases estimated for the 1933-34 season. For the 5-year period 1928-29 to 1932-33 the total supply averaged about 19,200,000 cases. Total supplies for each of the last three seasons, 1932-33 to 1934-35, were materially less than for any year since the 1924-25 season.

The disappearance of canned sweet corn from canners' hands during the 1933-34 season was the lowest in recent years, being only 11,300,000 cases, compared with 14,200,000 cases in 1932-33 and with an average of 15,800,000 cases for the five preceding seasons, 1927-28 to 1931-32. The largest disappearance since the record high pack of 1925 was during 1929-30, when more than 17,000,000 cases passed from canners' hands into consumption channels. Exports in recent years have not exceeded 50,000 cases annually.

Assuming that consumption of canned sweet corn during the 1934-35 season may reasonably be between the low mark of 1933-34 and the moderate totals of 1932-33 and 1931-32, it appears that carry-over at the beginning of the 1935-36 marketing season will be the smallest in recent years. In this event total supplies for 1935-36 will be obtained largely from the 1935 pack. Unless there is a marked improvement in the level of consumer purchasing power in 1935-36, the consumption of canned sweet corn during that season is not likely to exceed the levels of 1931-32 and 1932-33, when apparent consumption was slightly above 14,000,000 cases but was 11 percent below the 5-year average. Under these conditions a pack which would cover a probable 14,000,000-case consumption in 1935-36 and leave a normal carry-over at the beginning of the following season, or a total pack of not more than 15,500,000 cases in 1935, would not seem excessive.

A planting of approximately 310,000 acres, or an acreage slightly less than that of 1934, under average growing conditions would give a pack of 15,500,000 cases. Such a planting would not differ greatly from the 5-year average of 1928-32. Plantings in 1934 were increased 53 percent over the small acreage of 1933, and, had average growing conditions prevailed, would have resulted in an excessive supply for the 1934-35 marketing season. But as a result of damage from drought and heat, the yield per acre in 1934 was reduced to the lowest point on record and the threat of an excessive pack was eliminated.

GREEN PEAS FOR CANNING

Judging from the total supply of canned green peas available for the 1934-35 marketing season ending April 30, it appears that canners will continue to receive relatively high prices for canned peas during the remainder of the season and will enter the 1935-36 season with a comparatively small carry-over. For this reason, contract prices to growers for tonnage in 1935 will probably average higher than those of 1933, and may exceed the 1934 level. But in planning their acreages for 1935, canners and growers should bear in mind that acreage in 1934 was increased nearly 30 percent, and, under average growing conditions, would have produced a pack from 4,000,000 to 5,000,000 cases in excess of the pack actually obtained, and probably would have resulted in an unusually large carry-over at the beginning of the 1935-36 season. Should an acreage equal to that of 1934 be planted in 1935, the same threat of excessive supplies and lower prices will face both canners and growers.

The total pack of green peas in 1934 was equivalent to 15,742,000 cases of 24 no. 2 cans compared with a pack of 12,893,000 cases in 1933, and with a 5-year average of 16,432,000 cases for the period 1928-32. These figures do not include quantities of soaked peas which are packed each year. The total supply of canned green peas for the 1934-35 marketing season, including carry-over on May 1, was probably around 16,700,000 cases. For 1933-34 the total supply was estimated at 15,700,000 cases, and for the previous five seasons, 1928-29 to 1932-33, it probably averaged around 20,600,000 cases. The lowest supply in recent years was 15,000,000 cases, in 1932-33; the largest supply, totaling 25,500,000 cases, was in 1930-31, and followed exceptionally large packs in 1930, 1929, and 1928.

The disappearance of canned green peas from canners' hands during 1933-34 was about 14,700,000 cases. In 1932-33, following the small supplies and curtailed purchasing power of that season, disappearance was only 12,200,000 cases. For the preceding 5-year period, 1927-28 to 1931-32, disappearance averaged about 17,000,000 cases. During the last three seasons exports were less than 100,000 cases annually and imports were almost negligible.

Judging from the present rate of movement from canners' hands, consumption during 1934-35 will probably be larger than that of 1933-34 and may exceed 15,000,000 cases. Under these circumstances, the total carry-over will be less than 1,500,000 cases, or considerably below average. Assuming a similar or somewhat improved demand for the 1935-36 season, it appears that a pack

not exceeding 16,000,000 cases in 1935 would meet consumption requirements without the danger of an excessive carry-over at the beginning of the 1936-37 season.

Under average growing conditions, a planting of 210,000 to 220,000 acres (a decrease 20 to 25 percent below the 1934 acreage but close to the 5-year average of 1928-32) would be sufficient to produce a pack of 16,000,000 cases. Should the unusually low average yields of the last four seasons be repeated in 1935, however, a planting of about 280,000 acres, or an acreage equal to that of 1934 would be required to produce this pack. Making some allowance for the possible recurrence of lower-than-average yields in 1935, it seems that a planting of 240,000 acres, or 15 percent less than the 1934 acreage, would be sufficient to meet consumption requirements and leave a normal carry-over.

TOMATOES FOR CANNING

It appears that the 1934-35 marketing season will be fairly satisfactory to the canners of tomatoes, in regard to the marketing of their commodity. This situation, however, may be reversed by the planting of an unduly large acreage in 1935, with the resulting threat of a burdensome supply for the 1935-36 marketing season. This threat of an excessive pack was averted in 1934 only by a reduction of yield per acre by drought and excessive heat in some areas and by excessive rains in others. The acreage planted in 1934 was nearly equal to the record high acreage of 1930, when a total of 408,000 acres was planted for canning and manufacture. An acreage in 1935 slightly above the 5-year average (1928-32) but 15 to 20 percent below the large planting of 1934, would give, under average growing conditions, a pack sufficient for probable consumption requirements for the 1935-36 marketing season.

Although no estimate is yet available on the average seasonal price paid to growers of tomatoes for canning and for the manufacture of tomato products in 1934, this price will probably be somewhat higher than the relatively low prices of 1931, 1932, and 1933. This assumption is based upon the close relationship in recent years between the wholesale prices of canned tomatoes in December and January and contract prices to growers the following season. Wholesale prices of canned tomatoes in December and January preceding the 1934 season were 35 percent higher than the low level of the preceding December and January. During 1934 they have been fairly well maintained, and at present (October 1934) they are about 8 percent above the average of last December and January, although they are still considerably below the December and January averages preceding the 1929 and 1930 seasons. Judging from the present wholesale price level of canned tomatoes, contract prices to growers in 1935 may equal or exceed those of 1934.

Estimates of production on October 1 indicate that the total pack of canned tomatoes in 1934 will be equivalent to approximately 14,500,000 cases of 24 no. 3 cans, compared with a pack of 11,936,000 cases in 1933 and with an average of about 12,300,000 cases for the 5-year period 1928-32. Total supplies of American canned tomatoes, including carry-over stocks on August 1, will probably be around 15,200,000 cases for the 1934-35 marketing season, compared with 13,200,000 cases in 1933-34, and with an average of 14,300,000 cases for the five preceding seasons.

The disappearance of domestic tomatoes from canners' hands was about 12,500,000 cases during 1933-34, 12,900,000 cases for the 1932-33 season, and averaged 12,700,000 cases for the five preceding seasons. The lowest disappearance in recent years amounted to 10,600,000 cases for the 1931-32 season, and the highest was in 1930-31, when it reached a total of about 15,000,000 cases.

In addition to this apparent consumption of domestic canned tomatoes, an average of about 1,600,000 cases of equivalent no. 3 cans was imported into the United States annually during the last four seasons. This quantity has remained fairly constant since the peak imports of nearly 3,000,000 cases in 1929-30, after which the higher tariff duties went into effect. Exports during the last four seasons averaged 67,000 cases annually.

Unless the consumption of American-canned tomatoes in 1934-35 is larger than it has been in recent years, it appears that the carry-over at the beginning of the 1935-36 marketing season would be around 2,500,000 cases, a quantity exceeding the carry-over of the last three seasons but less than at the beginning of the 1930-31 season. It would seem that a pack not in excess of 13,000,000 cases in 1935 would be sufficient, with the probable carry-over, to fill con-

sumption requirements and avoid the possibility of an excessive carry-over into the following season. Under growing conditions approaching the average of the 5-year period preceding 1933, it would require a total of 320,000 to 340,000 acres, or slightly above the 5-year average acreage, to produce a pack of 13,000,000 cases, allowing approximately one-half of this acreage for the manufacture of products other than canned tomatoes, such as tomato juice, soups, sauces, catsup, and similar products.

FRUITS

Production of fruits in general probably will continue to expand, as present nonbearing acreage comes into bearing and as young acreage now in production increases in producing capacity. This is particularly true of citrus production and to a lesser extent of cherries, pears, and grapes. Owing to some improvement in consumer purchasing power and to slightly reduced total fruit production, prices of fruits in general have advanced slightly from the low levels of 1932 and have given orchardists of the country renewed hope. Some reductions of marketing and production costs have contributed to increased returns to fruit growers, which has resulted in better care of commercial orchards in most of the better producing areas. The more distant producers, however, still have the disadvantage of relatively high transportation costs.

Last winter's severe weather caused considerable loss of fruit trees in the Northeastern States and reduced 1934 production materially in nearly all of the eastern half of the country except in the Southern States. Losses of Baldwin apple trees were most severe in New York and in the New England States, while nearly all varieties received considerable injury. Drought damage to fruit trees in the Middle West is still an uncertain factor in the fruit outlook for that section. Tree losses probably will be replaced in commercial orchards, but many of the old farm orchards will be permitted to die out.

Numbers of fruit trees in farm orchards all over the country have been declining rapidly in recent years through neglect and abandonment, and further losses from unusually severe weather conditions last winter will hasten their reduction. On the other hand, commercial orchards generally are receiving good care, and tree plantings, although still moderate, have increased somewhat from the low rate of the two or three preceding years. During recent years, shifts to the more popular varieties have continued and have resulted in adjustments of production to changing market demand. In the areas adjacent to markets there has been a tendency toward more diversification to supply local consumers with a greater number of fruits and varieties over a longer season.

Prices of all fruits declined sharply from 1929 to 1932, partly because of increased production but largely because of reduced consumer purchasing power. During this period it was almost impossible for the fruit grower to cut costs as fast as prices declined and, as a result, orchardists suffered heavy losses. Cash outlays at the orchard were reduced close to a minimum, which resulted in actual neglect of trees in many instances. Freight rates were not reduced in conformity with the declining prices and therefore, the cost of getting the fruit to the more distant markets took an increasing proportion of the consumer's dollar. This reduced the grower's return severely. During the last two seasons, 1933 and 1934, market prices of most fruits have risen somewhat and there have been some downward adjustments in transportation costs, so that most fruit growers have received somewhat higher returns than was the case in 1932.

Owing primarily to the rapid increase in citrus production during the last 15 years, the combined production of all fruits has increased about 20 percent. The increase during the last 10 years has been at the rate of about 1 percent per year. There has been a slight downward trend in apple production since about 1930, largely because of the unfavorable weather in 3 of the last 5 years. With more favorable weather during the next few years, production of apples can be expected to average somewhat higher. The production trend of pears and cherries is sharply upward. Production of citrus fruits, particularly oranges and grapefruit, is likely to continue to increase sharply during the next 5 or 10 years. The trend of peach and grape production is slightly downward. There are still sufficient acreages of nearly all kinds of fruits now in commercial orchards, however, to continue to produce surplus commercial supplies in years of favorable growing conditions.

On a per capita basis, production of all citrus fruits for the 5 years 1919-23 average 29 pounds, as compared with 42 pounds, the average for the period

1929-33. Orange production increased from 21 pounds per capita in the former period to 29 pounds in the latter period, grapefruit increased from 5 to 9 pounds, and lemons from 3 to 4 pounds. A similar comparison for other fruits shows that apple production declined from an average of 72 pounds per capita in the 1919-23 period to an average of 60 pounds in the 5 years 1929-33, while grapes increased slightly from 32 to 33 pounds. Per capita production of peaches decreased from 21 to 20 pounds, and pears increased from 7 to 9 pounds, thus making a net increase in the per capita production of these seven fruits from 161 to 164 pounds. Imports of bananas averaged 24 pounds per capita in the 1919-23 period, compared with 26 pounds in the 1929-33 period.

THE EXPORT OUTLOOK

Fruit exports from the United States during the next few years will depend to a considerable extent upon a modification of trade barriers in foreign countries. Reciprocal trade treaties are now being negotiated although at present negotiations have not begun with the countries that are the most important export outlets for United States fruit.

In the last decade, approximately 10 percent of the commercial United States fruit crop was exported, but the proportion of some products has been much higher. About one-third of the pack of dried fruits is exported and close to one-fourth of the pack of canned fruits. About 16 percent of the commercial apple and pear crops move into export and 7 percent of the citrus production. In recent years, fruit exports have been second or third in importance among the agricultural exports of the United States.

There appears to be an upward trend in world fruit production, particularly in exporting countries. Canada, Australia, and New Zealand have rapidly increased apple exports during late years, and, to a lesser degree, pear exports. Palestine, South Africa, and Brazil have been especially active in increasing citrus exports. Australia has greatly increased raisin and currant exports during the last decade and, together with South Africa, has become a factor in dried and canned tree-fruit exports. Malaya and Taiwan have developed a considerable pineapple export trade.

There has been an upward trend in demand for fruits in foreign markets and the high quality and uniform pack of United States fruit have given it an advantage over fruit from most of the competing countries. This preference can be maintained only by constantly improving the export product. Fruit produced in the British Empire has had a decided trading advantage since the adoption of the Ottawa agreement in 1932 which permits entry of Empire fruits free of duty.

CITRUS FRUITS

The number and age of orange and grapefruit trees in the United States indicate increasingly heavy supplies, particularly of grapefruit. Over a period of years it does not seem probable that demand for citrus fruit, particularly grapefruit, will increase so rapidly as available supplies. Of the total of approximately 754,000 acres of oranges and grapefruit, about one-sixth is not of bearing age and about one-half the trees of bearing age are less than 15 years old and have not reached full bearing capacity. The upward trend in production is therefore expected to continue unless changed by damage to trees from storms, freezes, or other causes. Plantings in the last 2 years have been at a somewhat slower rate than in the preceding 2 or 3 years. The bearing acreage of lemons has been fairly constant since 1925 but has increased slightly in the last year.

During the 4 years ended in 1934, orange and grapefruit production averaged 68,000,000 boxes compared with 44,000,000 boxes in the 4 years 1924-27, or an increase of more than 50 percent. The estimated production in 1934-35 of nearly 77,000,000 boxes of oranges and grapefruit is roughly equivalent to 46 pounds per capita for the population of the United States. With the trees now in groves it would be possible, under favorable weather conditions, to reach a production of 90,000,000 to 100,000,000 boxes within a few years.

Cost of citrus production per acre has shown a downward trend from 1930 to 1933. Data procured by the California Citrus League indicate that the cost of producing oranges up to picking time in 1933 was about 55 percent of the cost in 1930 and that of lemons about 67 percent. Figures obtained by the agricultural extension service of the University of Florida from records kept by growers indicate that the per-acre cost of producing citrus fruit, mostly

oranges and grapefruit, up to picking time, excluding interest and depreciation, in 1932-33 was about 75 percent of that in 1930-31. The low point was perhaps reached in 1933, since which time cost per acre has increased.

A marked increase in the demand for oranges and grapefruit occurred from 1921 to 1929. The demand then fell off sharply owing to the decline in consumer purchasing power, which with increased production forced prices to very low levels. During the last season, prices were slightly higher than in the preceding season, chiefly because of smaller supplies. The higher prices of staple food products will make it more difficult to continue the expansion of citrus consumption among families with small incomes.

Foreign markets have usually taken about 7 or 8 percent of the United States orange and grapefruit crop in recent years. Canada and the United Kingdom are the principal countries receiving United States citrus fruit. Under current exchange rates, tariff on United States shipments to Canada is about 70 cents per box on both oranges and grapefruit, and to the United Kingdom it is approximately 75 cents per box on grapefruit, and on oranges 55 cents per box from April 1 to November 30 and 10 percent ad valorem during the remainder of the year.

Increased competition in the world markets may be expected, because of increasing production of oranges and grapefruit, particularly the latter. The average world production of lemons will probably continue for some years at about the present level.

The outlook for the 1934-35 season is for large supplies of citrus fruit. The October 1 estimate indicated a crop of oranges and grapefruit 25 percent greater than last season and 30 percent greater than the 5-year average, 1927-31.

To improve marketing conditions, marketing agreements are being adopted and put into operation in California, Arizona, Florida, Texas, and Puerto Rico under authority of the Agricultural Adjustment Act. With these agreements an attempt is made to avoid glutting markets to a point at which prices become so low that producers actually lose money on some of their fruit and receive relatively little for the remainder.

The operation of the marketing agreements in the citrus industry is intended to stabilize the market, improve the quality of the fruit moving into consumption, reduce the risk from violent market fluctuations, and move oranges and grapefruit into consumption at a higher average price than would prevail without a program. Experience in the operation of citrus-marketing agreements for the 1933-34 season indicates that such agreements may be of substantial benefit to citrus growers.

ORANGES

Orange acreage in the United States is roughly 539,000 acres, of which about 88 percent is of bearing age. About two-fifths of the bearing acreage is less than 15 years old.

California has approximately 235,000 acres in oranges, 90 percent of which is in bearing. Trees are in good condition. About 100,000 acres in California are Washington Navel and miscellaneous varieties which are marketed mainly from November to April. About 6 percent of these trees are not of bearing age. The Valencia variety, which is marketed largely from May to October, makes up 135,000 acres, with 12 percent not yet in bearing. Some further expansion in the bearing acreage of Valencias is indicated for the next few years, as contrasted with an approximately stable acreage of bearing Washington Navels and miscellaneous varieties.

Florida has about 263,000 acres in oranges and tangerines. Plantings are moderate but are at a higher rate than 2 years ago. Most trees are receiving good care. Early oranges, marketed mainly from October to February, make up about half of the total acreage, with 15 percent not of bearing age. Late oranges marketed mostly from March to July comprise about 40 percent of the acreage, of which 13 percent is not yet in bearing. Tangerines, for which the market season is roughly November to April, make up about 10 percent of the acreage, with only 3 percent under bearing age. Of the total bearing acreage of oranges and tangerines in Florida about three-fifths is under 15 years old.

Texas has about 28,000 acres of orange trees, of which approximately one-fourth are not of bearing age. In Alabama, Mississippi, and Louisiana production is largely of Satsumas. Acreage in these three States and Arizona is about 12,000, with one-fifth not of bearing age.

Orange production in the United States averaged about 48,000,000 boxes from 1929 to 1933, an increase of nearly one-fourth over the production of the preceding 5 years. The average of the 5 years 1934-38 is likely to show a further increase owing to the large number of trees that will have a greater bearing capacity as they approach 15 years of age. The crop forecast for 1934-35 of 57,000,000 boxes is the largest on record.

The orange export season is divided into two periods—the winter season, November to April, and the summer season, May to October. Exports from the United States, which usually approximate 7 or 8 percent of the crop, go mainly to Canada during the winter season and to Canada, the United Kingdom, and other European countries during the summer season. All during the year relatively small quantities are exported to certain Latin American and Asiatic countries. About two-thirds of the annual exports go to Canada and one-fifth to the United Kingdom. The remainder is usually about equally divided between continental European countries, and Latin American and Asiatic countries.

Oranges are not exported to Europe in any considerable volume during the winter season, because the large winter orange exports from the Mediterranean countries and from Palestine dominate the markets. Exports from these countries are increasing. Most of the exports of summer oranges from the United States are Valencias from California.

Brazil and South Africa are increasing their exports of oranges during the summer season. These practically all go to Europe, especially the United Kingdom, where South African oranges enter duty free.

More competition may be expected in foreign markets. In years of large Brazilian and South African orange crops exports from the United States to Europe during the summer season will be light. United States oranges are also meeting more competition in Canada throughout the year from duty-free Empire oranges from South Africa, Jamaica, and from Palestine.

The proportion of the crop exported in 1933-34 was about average, amounting to around 3,300,000 boxes, a somewhat smaller quantity than in the preceding year. The larger orange crop expected in the United States for 1934 indicates that exports may be somewhat heavier during 1934-35, especially during the summer season.

Puerto Rico produces around 1,000,000 boxes of oranges a year, but a large proportion of the fruit is in small holdings or is allowed to grow wild. Consequently exports, mostly to the United States, are important only in years of high prices. In the last three seasons shipments to this country from Puerto Rico have ranged from 15,000 to 40,000 boxes.

GRAPEFRUIT

There are approximately 215,000 acres of grapefruit trees in the United States, distributed as follows: Florida, 43 percent; Texas, 42 percent; and California and Arizona, 15 percent.

Of Florida's 93,000 acres of grapefruit, about 60 percent is classed as "early" and moves to market mostly from September to February, and the remainder is classed as "late." Of the early, 6 percent is under bearing age, compared with 15 percent for the late. For both classes of bearing trees in Florida about 55 percent is under 15 years old.

Texas has about 91,000 acres, with 38 percent not yet in bearing. It is estimated that 500,000 trees (including some trees other than grapefruit) were lost as a result of the storm of September 1933. Plantings in Texas have been at a slower rate during the last 2 years. The 276,000 grapefruit trees set out in the year ended March 31, 1934, compared with 402,000 the preceding year and 949,000 the year before that. In California nearly one-fourth and in Arizona about one-half of the acreage is not yet in bearing.

There has been a rapid increase in grapefruit production. In the 5 years 1929-33 the average production of 15,000,000 boxes was almost 50 percent greater than the average of the 5 years 1924-28. The 1934-35 crop, forecast at slightly less than 20,000,000 boxes, is of record size. With about one-fourth of the country's grapefruit trees not yet in bearing and with three-fourths of the bearing trees under 15 years, further increases in the size of the crop over a period of years may be expected.

The canning industry is an important market outlet for grapefruit. About 20 percent of the 1933-34 Florida grapefruit crop was canned as grapefruit hearts or juice. From 1925-26 to 1930-31 canning of grapefruit hearts increased

nearly sixfold to 2,412,000 cases of 24 No. 2 cans. There was then a decline to about 900,000 cases in 1931-32. In each of the last two seasons the pack was about 2,200,000 cases. The pack of grapefruit juice has averaged about 500,000 cases in the last four seasons. The 1933-34 pack of 610,000 cases of juice was less than the 726,000 cases packed the preceding year, but was considerably greater than the quantity packed in either 1930-31 or 1931-32. Some canning and processing of grapefruit is developing in Texas, but as yet the pack there is only a small percentage of that produced in Florida. There is apparently an upward trend in consumption of juices, including grapefruit, tomato, prune, and pineapple juices.

World grapefruit production is sharply upward. A few years ago grapefruit were received in the United Kingdom, chiefly during the winter months, from United States, Puerto Rico, Cuba, and Jamaica. Now they are received in important quantities throughout the year from many countries. Grapefruit from the United States, Puerto Rico, and Cuba arrive the year around. Palestine and Jamaica supply important quantities during the winter months with lesser quantities from Trinidad, British Honduras, Honduras, Spain, and Italy. South Africa, Brazil, Southern Rhodesia, Mozambique, Australia, and Argentina supply grapefruit throughout the warmer months.

Competition in the export markets may be expected to increase for at least a decade. In European countries other than the United Kingdom the per-capita consumption of grapefruit is very small, and any appreciable increase in consumer interest would tend to relieve the situation.

Around 1,000,000 boxes of grapefruit were exported from the United States in 1933-34 (September to August) out of the 14,243,000 boxes produced. This was about the average proportion, or 7 percent. As usual the United Kingdom took around 55 percent and Canada 35 percent. For the most part, shipments to continental European countries increased, although they continued to be small. Exports are likely to be somewhat larger from the crop of 19,662,000 boxes forecast for 1934-35. From a price standpoint the export outlook is not promising.

In addition to the fresh grapefruit exported, a large quantity of the grapefruit that is canned moves into export. This trade is increasing rapidly. Exports in 1933-34 amounted to 767,000 cases, which is equivalent to 27 percent of the Florida pack of 2,795,000 cases (24 No. 2 cans) of hearts and juice. Practically all the exports went to the United Kingdom and small quantities went to a number of other countries; the most important of these was Canada, which took a little over 5,000 cases.

Since a case of canned grapefruit is roughly equal to a box of fresh grapefruit, it can be seen that almost as much of the grapefruit crop was exported in the canned state as fresh. Taken together, the exports of fresh and canned grapefruit were equal to about 12 percent of the total United States grapefruit crop. The export outlook for canned grapefruit is more favorable than for the fresh fruit.

Grapefruit production in Puerto Rico has fluctuated rather widely during the last 7 years, or roughly, from 300,000 to 1,400,000 boxes, principally because of hurricane damage. Fresh shipments to the United States have averaged about 540,000 boxes and around 36,000 boxes have been shipped direct to foreign countries. A little less than 200,000 cases of canned grapefruit have been produced a year, most of which were shipped to the United States.

The 1934-35 Puerto Rican crop is expected to be about the same size as the 1933-34 crop, or something over 800,000 boxes. By January 1, 1935, probably about one-third of the crop will have been marketed. Since the late crop is running to small sizes, exports to Europe are likely to be heavier than usual next spring.

LEMONS

California lemon trees have received proper care and are in good condition. Growers are encouraged by the returns of recent years, which have been favorably influenced by unusually high temperatures in the consuming markets. There has been considerable planting during the last few seasons, which will probably be reflected in increasing production during the next 4 or 5 years. Of the approximate 49,000 acres in the State, one-seventh is not of bearing age. Bearing acreage has not changed greatly since 1927. California production is at a level at which, in years of average growing conditions, a portion of the crop cannot be marketed as fresh fruit at remunerative prices.

Imports of lemons are now of little importance, chiefly because of the tariff of 2½ cents a pound. Imports from Italy, the chief source, have declined from an average of about 700,000 boxes prior to 1930 to 50,000 boxes during the last season. Exports of lemons have averaged less than 5 percent of the crop in recent years, and about four-fifths of the exports usually go to Canada. In the 10-month period, November to August 1933-34, total exports have been equal to 192,000 boxes, or somewhat above exports in the same period in 1932-33 but below those of the two preceding seasons.

APPLES

With average weather conditions, and average care of orchards, production of apples during the next 5 years probably will be equal to and may exceed the somewhat lower-than-average production of the last 5 years. However, because of recent excessive damage from drought and cold weather, and continued heavy deterioration and removal of farm and generally unprofitable commercial orchards, accompanied by very little planting of trees during the last 5 years, moderate replacements and plantings will be necessary to maintain the present volume of production 10 to 15 years from now.

Indications are that exporters of apples from the United States may expect increased competition in foreign markets, since foreign countries are working toward increased production and improved quality of apples. Recent tendencies of many countries to impose trade restrictions is an unfavorable factor in the export outlook, but efforts are being made to offset these restrictions by trade agreements. The final success of these efforts cannot be determined at this time.

Keen competition from fruits that compete with apples, especially citrus fruits, is expected to continue.

DEAD AND DAMAGED TREES

A preliminary report on winter damage to fruit trees issued by the New York State Department of Agriculture and Markets, in cooperation with the Bureau of Agricultural Economics, shows 1,458,000 apple trees killed and 2,335,000 additional trees injured in New York during the winter of 1933-34. About 22 percent of the dead trees and 17 percent of the injured trees were reported to have passed their period of economic usefulness before December 1933. Winter killing and injury were relatively greater in farm orchards than in commercial orchards. Trees of bearing age were most severely affected. The number of trees of bearing age that were reported as killed amounted to 17.4 percent of the total number of bearing trees in New York on January 1, 1933. Only 4.4 percent of the number of nonbearing trees as of that date were reported as killed. In addition 26.3 percent of the number of trees of bearing age in New York and 12.7 percent of the number of nonbearing age were reported as injured by the cold winter.

Reduction in the total bearing surface was greatest for Baldwins, although Greenings suffered severely. The McIntosh, naturally hardy, with very few old trees, came through the winter remarkably well, as did trees of the Wealthy and Oldenburg (Duchess) varieties.

In New England the apple industry also suffered injury from the cold winter of 1933-34. An inquiry made by the Bureau of Agricultural Economics in July 1934 indicated at that time that the percentage of apple trees that were killed or were expected to die as a result of the freeze were as follows: Maine, 44 percent of the total; New Hampshire, 13 percent; Vermont, 10 percent; Massachusetts, 4 percent; Rhode Island, 7 percent; Connecticut, 6 percent. Baldwin trees, the most extensively planted variety in New England, were most seriously affected. In Maine 72 percent of the Baldwin trees were dead or were expected to die. In New Hampshire the percentage was 22; in Vermont, 50; in Massachusetts, 11; in Rhode Island, 7; and in Connecticut, 13. Practically all varieties showed some injury. McIntosh, the second variety in importance, showed little injury, with trees dead or expected to die at 3 percent of the total in Maine and 1 percent of the total in Vermont.

In addition to these losses about 225,000 apple trees, largely in neglected orchards, were removed in Massachusetts during the winter of 1933-34 for the purpose of apple-maggot control. Some trees were also removed in Maine for the same purpose.

In Pennsylvania winter-killed trees are estimated at but 1 percent of the total and winter damaged at only 6 percent. Estimates of winter killing of trees of bearing age in Michigan range from 5 to 10 percent and occurred mostly in the less favorable fruit-growing areas. Trees of the Baldwin, Wagener, and Grimes Golden varieties were most severely affected in Michigan. In Ohio no extensive damage from the winter of 1933-34 has been reported.

In some of the Central States damage to apple trees from drought is indicated, but for the region as a whole the drought will probably have little effect on future production. In sections of the Rocky Mountain States damage from short water supply for 1 or more of the last 3 years is reported, but is generally considered of a temporary nature, adversely affecting yields of the last 3 years more than those of the future.

Although the full extent of damage to apple orchards from the severe winter of 1933-34 and the drought of the last few years cannot be fully measured at this time, it appears that from 3,000,000 to 3,500,000 apple trees have been killed or are so badly damaged that they will no longer be a factor in production. Perhaps as many more were more or less severely damaged. Probably 90 to 95 percent of the dead trees were of bearing age. Their removal from production will, at average yields, reduce future production of apples by 5,000,000 to 6,000,000 bushels per year, or about 3.5 to 4 percent of average production during the last 5 years.

TREE REMOVALS AND PLANTINGS

From 1910 to 1925 there was a net decrease of 79,000,000 apple trees in the United States. From 1925 to 1930 there was another decrease of 21,000,000 trees, making a total decrease of 100,000,000 trees, or 46 percent in the 20-year period 1910-30. It is estimated that since 1930 a further decrease of at least 18,000,000 trees has occurred (dead trees as a result of the freeze during the winter of 1933-34 are included in the estimated decrease). Thus it is believed that the agricultural census of 1935 will show the total number of apple trees to be less than one-half of the number reported in 1910 and not over 70 percent of the number listed in 1925. The total number probably will not greatly exceed 95,000,000 trees.

During the 3 census years 1920, 1925, and 1930 apple trees of bearing age constituted about 75 percent of all apple trees. Even allowing for the relatively high mortality of trees of bearing age in the winter of 1933-34, it is believed that the proportion of bearing trees to all trees has increased to about 80 percent.

Because of the large number of trees in orchards that were set during the period 1905-12, a relatively large proportion of trees have reached maximum bearing capacity. It is probable that production from this body of trees will begin to decline about 1945. Tending to offset this decline is production from another relatively important body of trees planted soon after the World War, which will be close to maximum bearing capacity about 10 years from now. Increased production from this younger group of trees probably will not quite offset production from the older group 10 years from now, considering tree removals and plantings of the last 5 or 6 years.

Although no measure is available of apple-tree plantings during the last 5 years, it is apparent that they have not been sufficient to maintain the number of trees reported in 1930, and probably not sufficient to maintain the number now in orchards. Low prices for apples and lack of funds during the depression years have undoubtedly resulted in unusually light plantings, but during the present year a few indications of renewed interest in apple growing have been apparent. Instances of increased demand for good orchard land have been reported. Demand for nursery stock has increased somewhat over that of the last 2 years, when sales were very low.

With the exception of orchards that have been injured by cold weather and drought, those that have produced fair to good crops have been generally well cared for during the last 5 years and are in fairly good condition. Reports from some sections indicate better care in 1934 than in 1933. Commercial orchards that have not produced well because of poor locations have deteriorated. Throughout the country farm orchards are deteriorating more rapidly than usual.

Apparently the general tendency is for commercial orchardists to do the best they can in caring for their orchards until economic conditions improve. Once

improvement is substantially under way, the bearing capacity of many orchards may be expected to increase as a result of better care.

Such plantings as are being made are composed largely of McIntosh and of color strains of Delicious, Winesap, Jonathan, Stayman Winesap, and Rome Beauty. Of the young trees now in orchards, a relatively large proportion are of these varieties.

PRODUCTION AND PRICES

During the 5-year period 1911-15 production of apples averaged about 216,000,000 bushels per year, which was 30 percent more than the average from 1917 to 1931. This tremendous production was the combined result of earlier expansion in plantings, and good growing conditions during 4 of the 5 seasons. Production was so heavy that many apples were not harvested. Thereafter production declined rapidly, and, with the exception of seasonal variations, was fairly stable from 1917 to 1931 at about 165,000,000 bushels.

During the last 5 years, 1930-34, production has averaged about 151,000,000 bushels per year, a decrease of 6 percent below the average of the previous 5 years. However, only a small part of this reduction was the result of decreased bearing capacity. Because of unusual drought conditions and the severe freeze of 1933-34, growing conditions were below average, whereas during the previous 5 years growing conditions were better than average. This difference may easily account for two-thirds or more of the 6-percent decrease in production during the last 5 years as compared with the previous 5 years.

Although the number of apple trees of bearing age has decreased 20 to 25 percent during the last 10 years, potential producing capacity of all orchards has been maintained by an increase in average yield per bearing tree of 25 to 30 percent. Allowing for variations in growing conditions, average yield per bearing tree increased from 1910 to 1934 about 50 percent, and during the last 5 years would average nearly 2 bushels per bearing tree under average growing conditions. Because of unfavorable weather and orchard neglect, however, the actual yield during this period was probably about 1.7 bushels per bearing tree.

Although average production for the last 10 years of about 156,000,000 bushels has been only 72 percent of the average crop of 1907-11, there has been, on the average, no shortage of apples. On the other hand, supplies were burdensome in years of good growing conditions throughout the apple country.

Apple prices declined sharply from 1929 to 1932, largely because of declining consumer purchasing power. Prices advanced from an average of 63 cents per bushel to the grower for the 1932 crop to 80 cents for the 1933 crop, although there was little difference in supplies during the 2 years. Owing to a reduction in the crop of 1934, prices are averaging still higher this season. The United States farm price on October 15, 1934, averaged \$4.4 cents per bushel, compared with 70.3 cents the year before. The advance in prices during the last 2 years has been substantial in most sections of the country. Apple prices to growers in the New England States averages \$1.34 per bushel on October 15, 1934, compared with 79 cents a year earlier; in the Middle Atlantic States 95 cents against 79 cents; in the East North Central States 92 cents as compared with 78 cents in October 1933; in the West North Central area \$1.12 against 76 cents; in the South Atlantic section 80 cents against 62 cents; in the East South Central States 84 cents as compared with 67 cents the year before; in the West South Central group 83 cents against 72 cents; in the Mountain States the October 1934 average was 84 cents compared with 70 cents at the same time last season, and in the Pacific Coast States 73 cents against 64 cents.

REGIONAL PROSPECTS

WESTERN STATES

During the last 5 years, 1930-34, the 11 Pacific Coast and Rocky Mountain States produced 54,000,000 bushels of apples per year, or 36 percent of the United States total. They produce a higher proportion, about 45 percent, of the commercial crop of the country. Low prices for apples have resulted in noticeable neglect of orchards in the poorer fruit districts of these States and have increased the difficulty of western growers in marketing, since a large part of the crop is shipped to distant markets. Notwithstanding difficulties encountered, production in these States during the last 5 years has averaged only 3.5 percent less than during the previous 5-year period.

In general, commercial orchards in the better districts of the Western States have been well cared for. Plantings have been light and removals have been confined largely to orchards on unprofitable locations, to trees of unpopular varieties, and to trees that are set too close considering their present size. The few plantings that have been made in the last few years are confined largely to Delicious and Winesap. Rome Beauty and Yellow Newtown (Albemarle Pippin) have been planted to some extent. In California the limited plantings that have been made were largely of the Delicious, White Pearmain, and Yellow Newtown.

In Washington, production of the Winesap has probably reached a stationary level, production of Delicious will continue to increase for several years, and production of Rome Beauty is expected to show a slight increase. Production of Jonathan, Stayman Winesap, and Esopus Spitzenburg is declining. In California, production of early apples is expected to increase, and production of late apples probably will continue to decline at a slow rate. In Oregon, production probably will tend downward during the next several years. In the Mountain States, as a whole, production is expected to decline.

In the 11 Western States, as a whole, a relatively small percentage of the trees are yet to come into bearing, and a relatively large percentage have reached, or soon will reach, full-bearing capacity. Under average growing conditions the trend of production may be slightly downward during the next few years.

CENTRAL STATES

Production of apples in the Central States averaged about 58,000,000 bushels per year during the last 5 years, 1930-34, which was about 39 percent of the total United States crop. This was 11 percent less than average production during the previous 5 years. A part of this decrease was caused by unfavorable weather conditions, and a part by curtailed production expenditures and further deterioration of farm orchards. During the period of heavy plantings in the Northwest, 1905 to 1912, many millions of trees were planted in the Central States. The region as a whole is subject to frequent frosts and freezes, and many of the early plantings were on unfavorable locations and have been removed. Thus, from 1910 to 1930 the decrease in the number of apple trees in the Central States amounted to about 73,000,000 trees, or 60 percent. Since 1930 there has probably been a further decline of about 7,000,000 trees, leaving in the region at present about 42,000,000 trees of all ages, or 42 percent of all apple trees in the United States.

Many of the trees now in orchards were planted since the World War. Consequently, a relatively large part of the trees are young. According to the agricultural census, nearly one-third of the trees had not reached bearing age in 1930. The more recent plantings have been of the Delicious, Winesap, Jonathan, Stayman Winesap, and Yellow Transparent. The newer orchards as a whole are more favorably located than were many of the early plantings. With average weather conditions commercial production for the region as a whole can be maintained, and probably increased, with moderate annual plantings. This region contains a great many farm orchards, however, that are being allowed to deteriorate rapidly. This tendency, which probably will continue, may at least offset any increased production from commercial orchards until prices of apples again become attractive.

EASTERN STATES

During the last 5 years, 1930-1934, the Eastern States, which include the New England, the Middle Atlantic, and the South Atlantic States, produced about 38,500,000 bushels of apples per year, or 25 percent of the total United States crop. Production during these 5 years was only 2 percent less than the average for the previous 5 years.

At the beginning of the present depression the apple industry of this region was better equipped for economical production of fruit than at any time in many years. Many unproductive orchards had been removed and those that remained were generally well cared for, and were planted largely to such varieties as Delicious, McIntosh, Winesap, Stayman Winesap, Rome Beauty, Grimes Golden, York Imperial, Baldwin, Northern Spy, Rhode Island Greening, Wealthy, and some of the early varieties. The region as a whole contained a large proportion of trees that had not come into full bearing. During the last 2 or 3 years orchards that have not been generally profitable have received less

than average care, but partly because of nearness to large consuming centers, many orchards have received very good care. Recent plantings have been light, and to the present year removals have been at a normal rate.

During the unusual freeze of the winter of 1933-34 at least 2,500,000 trees were killed or were injured so badly that they are expected to die and many more were severely injured. The dead trees have probably reduced the future potential bearing capacity of orchards in the region by 4,000,000 or 5,000,000 bushels per year, or 10 to 12 percent of average production during the last 5 years. This is only about 3 percent of average production in the United States during the same period. However, the decrease may be considerably larger because of injury to trees that are not dead.

Indications are that during the coming season replacements of dead trees in some sections will be rather large and in other sections they will be light. At best it will be several years before trees can be brought into bearing to replace production of the killed trees. With comparable growing conditions it is doubtful whether production of apples in the Eastern States will be maintained during the next few years at as high a level as during the last several years. From a longer viewpoint, the potential bearing capacity of orchards in the region may decline somewhat, unless they are cared for better, since a relatively large part of the trees are nearing full bearing capacity. Because of the heavy mortality of Baldwin trees during the cold winter of 1933-34, supplies of this variety will be exceptionally low at least for many years.

EXPORT MARKETS

Owing to the short North American apple crop, and consequently prospective higher prices as compared with last year, and to the moderate to large apple crops in Europe, as well as trade restrictions recently put into effect by Germany, the volume of exports from the United States is likely to be less during the 1934-35 season than during 1933-34. The United States commercial crop for 1934-35 is estimated at about 68,800,000 bushels, which is about 8 percent less than the commercial crop of 1933-34. Because of the moderate-to-large European crops, the export movement has been slow in starting and total volume for the season probably will be less than the 12,300,000 bushels exported during the preceding 12 months.

Apple exporters may expect keener competition in foreign markets. Fruit growing has been fostered in many countries as a result of nationalistic policies and economic conditions. Practically all apple-producing countries have made some progress in improving yields and quality. Exporting countries in particular have taken the lead in this respect. Canada, Australia, and New Zealand have increased their apple exports so rapidly in recent years that restrictions were imposed to reduce the volume by eliminating the low quality and the undesirable varieties of apples. The passage of the Export Apple and Pear Act in 1933 has helped materially to raise the quality of apples exported from the United States. Italy, the Netherlands, and Switzerland also have improved their export apple packs.

Trade barriers continue to obstruct the free movement of apples. Efforts are being made to correct this situation, but it is doubtful if any appreciable degree of relief will come from this source before the 1934-35 apple season is over.

In the 5 seasons, 1928-29 to 1932-33, exports of apples have averaged 17 percent, and have ranged from 12 to 20 percent of the commercial apple crop of the United States. From 15 to 24 percent of the commercial boxed-apple crop and from 9 to 16 percent of the barrel and basket crop were exported during the same period. Exports of United States apples go chiefly to United Kingdom, Germany, and the Netherlands. During the 5-year period, 1928-29 to 1932-33, the United Kingdom took 44 percent, Germany 17 percent, and the Netherlands 11 percent of total exports from this country.

Exports from States that grow popular varieties of export apples comprise a large share of the crop of those States. In Oregon, exports sometimes reach 70 percent of the commercial crop. Probably as much as 60 percent of the Virginia and 40 percent of the West Virginia commercial crops move into export in some seasons. Of the various apple-exporting States, the volume of exports is generally heaviest from Washington. Because of the large production in Washington, however, the proportion of the crop exported probably does not exceed 25 percent.

The export outlet is highly important to the American apple industry. Many orchards in both the Pacific and Atlantic Coast States were planted with the intention of marketing considerable proportion of the crop abroad. Often special varieties that are more popular in foreign countries than in the United States were planted, such as York Imperial, Yellow Newtown (Albamarle Pippin), Ben Davis, Ortley, and Esopus Spitzenburg.

PEACHES

For the country as a whole the producing capacity of orchards supplying fresh peaches for market does not seem excessive and is likely to remain near the present level for the next 4 or 5 years. In some districts declines in bearing-tree numbers may be offset by increases in other districts and by better care and condition of orchards generally. The production of clingstone peaches in California, which is still in excess of the needs of the canning industry under present demand conditions, has passed the peak, and clingstone as well as freestone production is likely to continue to decline for the next 4 or 5 years. Production for the United States for the 5 years 1930-34, averaged 53,000,000 bushels, compared with 52,000,000 bushels for 1925-29, and 46,000,000 bushels for 1920-24.

Orchards generally have been well cared for in the last year and are in good condition. Planting of orchards has increased somewhat in 1934 as compared with the low rate of several preceding years. Continued moderate planting is necessary to maintain production near the present level in the South and most other areas producing fresh fruit for market. In the South as a whole the trend in number of bearing trees is probably slightly downward. There has been severe winter injury to older orchards in some of the North Atlantic States, particularly in New York.

Marketing by motor truck and at roadside stands continues to be an important factor in adjustments which are taking place in the peach industry. Shifts in production among competing districts and some changes in varieties planted are occurring.

Returns to peach growers in districts where a crop was produced in 1934 were more favorable than in earlier years of the depression. For the United States prices in 1933 and 1934 averaged about 40 percent higher than the low average of 1931 and 1932. Peach prices for the United States in terms of the 1910-14 average declined from 122 percent in 1929 to 47 percent in 1932; then rose to about 71 percent in 1934.

PRODUCTION PROSPECTS

The outlook for peaches varies with the different districts, according to their harvesting seasons and market-distribution areas. In seven leading Southern peach States (North Carolina, South Carolina, Georgia, Alabama, Tennessee, Arkansas, and Texas), which are the main source of supply of fresh peaches each season until about the middle of August, the number of bearing trees has declined during the last few years. Production in the 3 years, 1932-34, averaged 11,200,000 bushels, or less than one-half of the record crop of 1931 and about one-fourth less than the 5-year average 1927-31.

In seven southern peach States the present number of bearing trees is sufficient, with average growing conditions, to produce a crop of about 15,000,000 or 16,000,000 bushels. A study of the relationship of production and crop value in these States over a period of years indicates that if production falls much below this quantity, the gross returns to peach growers will also decline. Southern peach orchards are in fair-to-good condition, as returns in the last two seasons have encouraged growers and enabled them to give better care to the orchards. Indications, from nursery stock sold and from reports received from the producing areas, are that planting has increased somewhat in the last year as compared with that of the previous year but is still at a much lower rate than during the period of rapid expansion from 1920-25. A continued moderate rate of planting such as has occurred in the last year or two or perhaps a slightly higher rate would apparently not result in burdensome production in years of average growing conditions. New plantings should be undertaken, however, only after careful consideration of such factors as orchard site, variety, competition, and financial resources to care for the orchard.

In Georgia, the leading southern peach State, a survey made in the fall of 1931 indicated that only 18 percent of the commercial trees in the State were

less than 5 years old, and 33 percent were more than 9 years old. Plantings have hardly been sufficient to replace trees going out of production and indications are that a rather high percentage of the trees are well advanced in age. But with better care being given orchards it is probable that in any year in the near future, under favorable weather conditions, Georgia may ship more than 8,000 cars. In 1934 Georgia shipped nearly 8,200 cars, and in the 3 years, 1932-34, averaged about 6,000 cars, compared with 11,000 cars as the 5-year average in 1927-31.

In southern Georgia estimated plantings in 1933-34 of 100,000 trees and in 1932-33 of 50,000 trees have almost equaled the number of old trees removed. Trees planted have been mostly of the Hiley variety with some Early Rose and Uneeda. Only a few of the Elberta variety have been planted in this district in recent years.

Some further decline in the production trend in central Georgia is expected. In the last two seasons probably not more than 100,000 trees have been set in central and north Georgia. Many of the new plantings in central Georgia have been of early varieties, chiefly Hiley and Early Rose. If there is a further material increase in planting of Hiley and earlier varieties in central Georgia, competition with shipments from the southern district may result in serious losses.

North Carolina and South Carolina orchards are generally in good condition. New plantings in North Carolina in the last few years have probably not been sufficient to offset trees that have gone out of bearing. In South Carolina the production trend is definitely upward and within 4 or 5 years production may be approximately double the average of the crops of 1933 and 1934. Condition of Arkansas peach orchards varies considerably, but it is expected that by fall of 1937 the number of bearing trees will be 15 to 20 percent less than at present.

In the peach areas of Pennsylvania, Maryland, Virginia, West Virginia, New Jersey, and Delaware no great change in the number of bearing trees is anticipated, although the trend may be slightly downward, owing chiefly to a decline in the industry in West Virginia and to damage to trees from freezing injury in Pennsylvania, where 7 percent were reported killed and 17 percent injured in 1934. In 1930, 28 percent of the trees in these States were not of bearing age and it is probable that the ratio of young trees to total trees has not changed materially since 1930. For this region as a whole average production has not changed greatly in the last decade.

In New York State, damage to peach trees from freezing in 1933-34 was severe. A survey for the State showed that 37 percent of the trees of bearing age were killed and 33 percent injured. Of the bearing trees which were killed, about one-fifth were reported to have been past their period of economic usefulness prior to the freeze. Of the trees not of bearing age which amounted to about one-third of the total in 1930, only about one-seventh were killed and one-fifth injured. Young orchards in general are well cared for and in good condition, whereas old orchards as a rule are in poor condition. Many growers are planning to set out new orchards many of which will be varieties other than Elberta.

Some injury from low temperatures occurred in Michigan and Ohio but on the whole injury is not very serious. The resulting tree mortality was probably not more than 2 or 3 percent. New plantings are probably about sufficient to prevent a decline in tree numbers. In Illinois and Missouri the number of trees set out has not been large and there has been a small amount of damage from drought.

The 1934 crop in Colorado was the largest on record, quality was good, competition from other States was limited, and returns to growers were encouraging. Orchards are receiving good care. Little, if any, expansion is expected but there will probably be replacements to maintain present acreage. The number of bearing trees in Utah may decline somewhat in the next few years.

Northwestern peach growers are encouraged by better-than-usual returns for the 1934 crop, and orchards are in fair-to-good condition. In Washington new plantings have been limited and in Oregon the bearing acreage is reported to be on the decline.

In California the acreage of 112,000 acres is about equally divided between clingstone and freestone varieties but roughly two-thirds of the production is of clingstone and one-third of freestone varieties. The production of clingstone varieties is still in excess of the needs of the canning industry. The 1933 and 1934 clingstone crops were marketed under an Agricultural Adjustment Ad-

ministration marketing agreement and returns to growers were much higher than in 1932, although under the terms of the agreement a portion of the clingstone crop was withheld from sale to canners. Prices of freestone varieties were also higher in 1933 and 1934 than in 1932. Plantings of both clingstone and freestone varieties have been relatively light in recent years and production is now declining. There was some increase in the rate of planting of clingstone varieties this season.

California peaches move east in considerable volume, particularly in years when the midseason crop in other sections is light. From 1930 to 1934, these out-of-State shipments averaged slightly under 3,000 cars annually, and were equivalent to about 6 percent of the California production. Of the out-of-State shipments during the last 3 years about one-half were reported as freestones, one-sixth as clingstones, and one-third as unclassified.

CHERRIES

The numbers of cherry trees now in orchards and their condition and age are sufficient to maintain the upward trend in production (that has been in evidence during the last few years) for at least another 5 years. Although tree losses were heavy in some of the Northeastern States during last winter and may check the trend to some extent, there is still sufficient acreage upon which the production is increasing at a rapid rate to produce burdensome surpluses in years of normal growing conditions.

Production of cherries in the 12 more important commercial States (New York, Pennsylvania, Ohio, Michigan, Wisconsin, Montana, Idaho, Colorado, Utah, Washington, Oregon, and California) in 1934 is estimated at 115,081 tons, or about 9 percent less than the large crop of 1932, 2 percent less than the 1933 crop, but 23 percent larger than the average crop for the period 1927-31.

The total number of trees in the 12 States increased about 16 percent from 1920 to 1930. In 1920 about 22 percent of the total trees in orchards were not of bearing age and in 1930 nearly 37 percent. Since 1930, plantings have been fairly light in most sections. Allowing for losses from natural causes and losses from freezing during the last two winters, it is estimated that there are about 7,600,000 bearing trees now in orchards, which would be about 29 percent more than in 1930.

SOUR CHERRIES

No separation of sweet and sour varieties is made in the census enumeration of trees nor in the estimates of production, except in New York, but surveys show that the majority of the cherry trees in the States east of the Rocky Mountains are of sour varieties. About 95 percent of the trees in Michigan and fully 87 percent in New York are of sour varieties. The majority of the trees in Wisconsin, Pennsylvania, Ohio, Montana, and Colorado are also of sour varieties.

In these seven States present tree numbers are sufficient to maintain an upward trend in production for at least another 5 years, provided there is no future unusual abandonment or exceptional loss due to winter-killing or like causes.

Production of sour cherries is now so large that in years of average or better-than-average conditions production exceeds the quantity that can be marketed profitably.

In 1930 there were about 6,034,000 cherry trees in those seven States; 36 percent were not of bearing age, and 64 percent were bearing. In New York the cold weather of the winter of 1933-34 killed about 7 percent of the bearing sour-cherry trees and over 3 percent of the nonbearing trees. Almost 18 percent of the bearing trees and 13 percent of the nonbearing trees were injured. About 5 percent of the Pennsylvania cherry trees were killed and 8 percent were injured. Apparently Ohio and Michigan cherry trees also suffered from last winter's low temperatures and, to some extent, from the 1934 drought. In Colorado, in 1933, there was some loss of trees through winter injury, and tree numbers in that State are apparently on the decline. Neglect of trees during the last 3 years, combined with drought and winter damage in Wisconsin, probably resulted in sufficient injury to check the advancing potential production somewhat, despite the probable increase in acreage through new trees coming into bearing.

Michigan, now the largest cherry-producing State in the country, had about 1,910,000 trees in commercial orchards on January 1, 1931; of these about 54

percent were nonbearing, 21 percent were between 7 and 11 years old, 13 percent between 12 and 18 years old, 9 percent between 19 and 25, and 3 percent 26 years and over. Plantings since 1930 have been negligible. Under present low-price conditions no extensive plantings are contemplated, and some neglect has been reported. Total potential cherry production in Michigan increased about 26 percent during the period 1929-34, as a result of previous heavy plantings. This upward trend is expected to continue chiefly as a result of increased bearing capacity because of the increase in the average age of bearing trees. The greater number of the cherry trees in New York are relatively young and are mostly well cared for. In Washington new plantings of sour cherries scarcely equal the removals.

SWEET CHERRIES

In the States producing the bulk of the sweet cherries the long-time production outlook is much the same as indicated for sour cherries. In 1930 California, Oregon, Washington, Utah, and Idaho had about 3,368,000 cherry trees, which represented an increase of about 56 percent from 1920. Only about 62 percent of the trees in orchards in these five States in 1930 were then of bearing age, compared with 75 percent of the 2,156,000 trees reported in the census of 1920. In California orchards have generally received good care, but low returns in recent years have tended to discourage producers, and, if this condition continues, some abandonment of orchards may be expected. A classification of Utah cherries for April 1931 was as follows: Of bearing trees, sweet dark, 65 percent; sweet light, 11 percent; sour cherries, 22 percent; of nonbearing trees, 60, 9, and 31 percent, respectively. Dark sweet cherries, chiefly Bing and Lambert varieties, have been the favorites in the plantings of the last 8 or 9 years and the few plantings of 1934. The recent drought has probably killed considerable numbers of young cherry trees in Utah. Plantings since 1930 have been light in the Western States, but there is some indication that plantings of sweet cherries are being made in some Eastern States within trucking distance of large cities and in localities in which retail sales can be made through roadside stands. Loss of sweet-cherry trees in these States was unusually heavy during the winter of 1933-34. With about 38 percent of the trees in orchards in 1930 not of bearing age, and with but little abandonment or unusual future loss from weather and diseases, the trend of production may be expected to continue upward during the next 5 years.

PEARS

Pear production in the United States has followed a pronounced upward trend for the last 30 years, and there are now sufficient trees in bearing and coming into bearing to increase production further, unless tree numbers are greatly reduced by winter injury or by neglect. Bearing-tree numbers are such that in years of favorable fruiting conditions production will be greater than can be marketed without difficulty. Low prices during the 4 years, 1930 to 1933, discouraged many growers and resulted in neglect and in some abandonment of orchards. The higher returns in 1934 over those received in 1932 and 1933 have tended to encourage growers in most of the important pear-producing sections to take better care of their orchards.

The number of bearing pear trees in the United States declined from about 17,700,000 in 1900 to a low point of 14,651,000 in 1920, then turned upward to 16,041,000 in 1930. The 20 years of decline from 1900 to 1920 were marked by the abandonment of the small-farm orchard and by expansion in the more favorably located commercial sections. This shift in the areas of production was largely regional. In the Eastern States as a whole, tree numbers have declined from the beginning of the century to the present, whereas in the Pacific Coast States new plantings made shortly after 1900 began to show in an upward trend in numbers of bearing trees between 1910 and 1920. The sharp increase in bearing trees between 1920 and 1930 is due almost entirely to the expansion in California, Washington, and Oregon. In 1910 only about 16 percent of the pear trees in the United States were located in these three States, while by 1930 these States contained over half.

Since 1930 the rate of new planting has decreased, although some new planting is continuing in a few areas, such as the Hood River Valley in Oregon, where there is a marked tendency to replace apples with pears. During last

year there was a slight decrease in the total pear-tree acreage in California, but there was about a 2-percent increase in the bearing acreage.

Commercial pear orchards in Michigan, Indiana, and Illinois have been maintained in good condition. Elsewhere east of the Pacific Coast States there has been a general tendency to neglect orchards during the last few years. Pear trees suffered from the severe temperatures of the winter of 1933-34 in New York and Pennsylvania. About 9 percent of the bearing pear trees in New York were killed last winter and 6 percent of the nonbearing trees. An additional 21 percent of the bearing trees and over 14 percent of the nonbearing trees were injured. Probably 2 percent of the Pennsylvania pear trees were either killed or injured. There has been a tendency to neglect and, to some extent, to abandon marginal orchards and unpopular varieties in the west coast orchards.

It seems probable that the United States production of pears on the present acreage may reach a peak in a few years and that the Pacific Coast States will produce an increasing proportion of the total crop.

No statistics are available as to the average age of pear trees now in orchards, but with such a large proportion of the present bearing acreage located in the three Pacific Coast States, where the major part of the development has occurred within the last 15 years, it would seem that the trees are relatively young. In the East the orchards are probably older, but the shift that has taken place during the last 20 years would indicate that the present orchards, although having reached full production, are in better locations where a relatively high average production per tree can be obtained.

Of the 21,929,000 bushels of pears harvested annually (average of the 5-year period 1927-31), about 17,229,000 bushels were used as fresh fruit, 3,639,000 bushels were canned, and 1,061,000 bushels were dried. Of the 19,525,000 bushels of pears harvested in 1933, about 69 percent were used as fresh fruit, 24 percent were canned, and 7 percent were dried. In 1934 it is estimated that 23,321,000 bushels were harvested, of which 73 percent were marketed fresh, 23 percent were canned, and about 4 percent were dried. The canned-fruit pack during the 1934 season is estimated at 5,000,000 cases compared with the average 1927-31 pack of about 3,460,000 cases (24 no. 2½ cans). The dried output during the period 1927-31 averaged about 4,822 short tons. About the usual quantity and percentage of pears for use as fresh fruit were held in cold storage on October 1, 1934 (2,123,000 bushels).

EXPORTS

Exports of fresh pears in 1933-34 (July to June) were 2,220,000 bushels, compared with 2,400,000 bushels last season and 1,618,000 bushels in the 5-year period 1926-27 to 1930-31. The proportion of the pear crop exported has been around 10 percent in the last 2 years, as compared with 7 percent, the average of the last 5 years. The United Kingdom is the chief outlet, taking about 50 percent of the exports. Important quantities are also disposed of in France, the Netherlands, and Canada.

In addition to the fresh pears, large quantities of canned and dried pears are exported. Exports of these products on a fresh-fruit basis averaged about 2,000,000 bushels during the last 5 years, or nearly 9 percent of the crop.

Exports of dried pears in 1933-34 of 4,204 short tons were the heaviest on record. Germany has usually taken over half these exports. Most of the remainder goes to France, the United Kingdom, the Netherlands, and Sweden. Usually about 70 percent of the dried-pear production is exported. With the exception of 1928-29, the exports of canned pears in 1933-34 amounting to 1,568,000 cases (50 pounds) were the heaviest on record. Practically all of the canned-pear exports go to the United Kingdom. Small quantities are distributed to many different countries. About one-third of the pack is usually exported.

The United States is the chief source of dessert pears entering into export during the winter months. Although some increase in plantings is taking place in Canada and in a few European countries, no important increase in world supplies is expected in the next 5 years. The United States is also the most important source of canned- and dried-pear exports. Neither of these products is in danger of being displaced in export markets in the near future, although Canada and Australia have been increasing their production of canned pears.

The export outlook for the remainder of the 1934-35 season is favorable for fresh and canned pears. Owing to the heavy reduction in imports by Germany, the outlook for dried pears is rather unsatisfactory.

GRAPES

The market outlook for grapes for 1935 will probably show but slight change from 1934 unless there is marked improvement in economic conditions in general. There is already in the country as a whole, ample acreage of wine, raisin, and table varieties to take care of any increase in demand that is likely to take place in the next 5 years. Potential supplies from the present acreage in years of normal crops are likely to prove burdensome, and it is not probable that new plantings will be necessary, except for replacement purposes, for several years to come.

In general, grapes are used in the United States for three purposes. In the order of their importance, they are grapes used for fresh table use, grapes used for the production of raisins, and grapes used for the production of wines. During the last decade the volumes of grapes marketed fresh had necessarily increased considerably, but the decline in purchasing power during the depression brought about a decrease in demand and drastic declines in prices. With the repeal of the eighteenth amendment, a considerable portion of grapes heretofore marketed for fresh use apparently has been diverted to the manufacture of wine.

Prior to the enactment of the eighteenth amendment, 1915-19, consumption of wines in the United States averaged about 46,000,000 gallons per year, or somewhat lower than during the pre-war years, 1910-14, when it averaged about 57,000,000 gallons. Imports from foreign countries made up from 5,000,000 to 7,000,000 gallons of these quantities. On a per capita basis consumption has never exceeded 0.67 gallon during the last 30 years and in normal times averaged about 0.6 gallon. It is estimated that 30 percent of 1934 production of all grapes in the United States would produce enough wine to satisfy preprohibition per capita requirement. In 1934 the production of wine varieties in California alone makes up about 80 percent of this requirement. During the 4 years beginning July 1, 1928, and ended June 30, 1932, an average of about 6,266,000 gallons of wine was produced. For the year 1932-33 the production increased three times and reached 18,756,000 gallons. In 1933-34 it was increased almost 10 times the 1928-32 average to 61,000,000 gallons. Production in the latter year was augmented by importations amounting to about 3,151,000 gallons. Stocks of wine on hand in bonded warehouses on July 1 averaged 21,112,000 gallons for the 5 years 1928-32 and are estimated to have reached between 55,000,000 and 60,000,000 gallons by July 1, 1934. These figures on stocks and production of wine include also wine to be used for distilling purposes, and no allowance is made for evaporation and waste loss. It is indicated from production and stocks that about 25,541,000 gallons moved out of bonded warehouses during 1933-34, some of which went to build up stocks in wholesale and retail stores.

The outlook for higher prices for table grapes is poor, as the supply continues to exceed the demand, which has not changed materially in the last year or two.

The raisin situation from a supply standpoint appears to be much more favorable than it was in 1933. Indicated total production of dried raisins is down about 17 percent from last year and when carry-over is included, the total supply for the 1934-35 marketing year would be down about 14 percent from 1933 and about 16 percent below the average for 1928-32. Normally about 22 percent of the total supply is exported, but in recent years, owing to the increase in trade restrictions in foreign countries, exports have been declining. Normal exports of raisins have averaged about 65,000 tons. The exports for the year 1932-33 were 60,000 tons, and for 1933-34, 50,000 tons. With exports and domestic consumption about the same as during last season, the carry-over at the end of the present marketing year will be reduced materially below those of recent years. Although the raisin-grape situation has improved somewhat owing to the large reduction in acreages and low yields in the last several years, and a somewhat greater use of raisin varieties for wine during the last year, the supply is still somewhat in excess of the demand.

During the period 1910-14 production of all grapes in California averaged 897,000 tons, while during the recent 5 years (1929-33) it averaged 1,783,000 tons, and is estimated at about 1,471,000 tons this year.

For the country as a whole the production of grapes increased steadily during the decade ended in 1928, but has since declined. The 1934 crop, smaller than last year because of drought and winter damage, is expected to total 1,699,000 tons, which compares with 1,910,000 tons produced in 1933, and 2,277,000 tons, which was the 1927-31 average. California is expected to produce 1,471,000 tons in 1934, of which 431,000 tons are classed as wine varieties, 799,000 tons (fresh basis) as raisin grapes, and 241,000 tons as table grapes.

In general the demand for grapes has declined sharply since 1927, although there had been some slackening in consumption for at least 2 or 3 years prior to 1927. In 1933 and 1932 growers received only \$17.82 and \$13.16 per ton, respectively, for grapes compared with \$23 per ton in 1931. Owing to a smaller supply and demand and improved conditions, there have been increased returns for the 1934 crop.

ACREAGE

The number of grape vines of all ages and varieties in the United States decreased about 8 percent during the 10-year period 1910-20, but increased 45 percent from 1920 to 1930. The Bureau of the Census reported that there were 366,844,000 vines of all ages in the country as a whole in 1930, of which number 342,191,000 were of bearing age and about 24,653,000 were nonbearing. Since 1930 there has been considerable neglect and some abandonment of vineyards, especially in California. The repeal of the prohibition amendment has changed this tendency to some extent, but there have been few new plantings except of sweet wine and other desirable wine varieties in California, and the number of vines now in vineyards has undoubtedly declined slightly.

The 1934 drought and the 1933-34 winter damage, although affecting the producing capacity of the 1935 crop, will not be sufficient to lower materially the national total production capacity. A survey in New York shows that 9.4 percent of the vines of bearing age were killed and 30.2 percent were injured; and 6.5 percent of the vines not of bearing age were killed and 14.7 percent were injured by the severe weather in the winter of 1933-34. Such varieties as Catawba, Niagara, and Delaware suffered the greatest damage. It is expected that new and replacement plantings will largely offset the reduced acreage caused by drought and winter killing.

In California, where approximately 70 percent of the grape acreage is located, the number of bearing grape vines increased steadily during the two decades ended in 1928. Since 1928 there has been a steady decline and in 1934 the bearing acreage was about 18 percent below the 1928 peak. From 1919 to 1928 the bearing acreage of all varieties in California almost doubled, rising from 322,000 to 628,000 acres, but has since declined to 514,100 acres in 1934. Since 1927 the nonbearing acreage of all varieties has dropped off sharply, from 40,700 acres to only 1,600 acres as of January 1, 1934.

The California bearing acreage of wine grapes increased steadily from 97,000 acres in 1919 to 194,000 acres in 1928, but declined to 185,000 acres in 1932. It increased slightly to 187,800 in 1933 and remained stationary during 1934. Since 1927 the nonbearing acreage of wine-grape varieties has declined steadily from 33,900 acres to only 600 acres in 1933 and increased slightly to 800 acres as of January 1, 1934.

The California bearing acreage of raisin grapes increased from 170,000 acres in 1919 to 352,000 acres in 1926, but has since declined to 232,500 acres in 1934. Very few raisin grapes have been planted in California during the last few years. In 1927 only 2,000 acres were of nonbearing age and by January 1, 1934, the acreage had decreased to only 100 acres.

In 1919 the bearing acreage of table grapes in California totaled 55,000 acres. It increased to 144,000 acres in 1926, but has declined steadily to 93,800 acres in 1934. The nonbearing acreage of table-grape varieties declined from 4,800 acres in 1927 to only 700 acres in 1934, excluding 1934 plantings.

In the remainder of the United States the total number of grape vines increased 39 percent from 1920 to 1930, when it was probably at a record peak of 109,000,000 vines. Of this total, about 100,000,000 were of bearing age and 9,000,000 were nonbearing. Because of the low prices received for all varieties of grapes during the last few years and in view of the downward trend of acreage in California and winter loss in New York, it is probable that there has been a decrease in vineyards in these States since 1930.

STRAWBERRIES

Preliminary estimates indicate that the 1935 commercial strawberry acreage for picking will be about 167,100 acres, or 15 percent below the acreage of 1934, which was only slightly below the record acreage of 1928. Acreages for harvest will be below those of 1934 in all marketing groups of States, except the western group, where an increase of about 10 percent is expected. Of the acreage for picking in 1935, it is estimated that about 57 percent will be new beds, 30 percent second-year beds, and the remaining 13 percent chiefly third-year beds. Roughly this is the same proportion as the age distribution of the acreage picked in 1934. The average condition of all beds about October 1, 1934, was reported to be 71 percent of normal, compared with 73 percent a year earlier. The relative condition of first-year, second-year, and older beds was reported at 75, 69, and 57 percent, respectively, compared with condition figures of 79, 69, and 59 percent on October 1, 1933.

For the country as a whole, commercial strawberry production in 1932 was the largest in several years. With production high, quality of southern berries generally poor, and buying power of consumers low, average prices for the 1932 crop were much lower than for any crop of the previous 15 years, and 45 percent below the average price for the 5-year period, 1927-31. Nevertheless, the acreage for picking in 1933 was increased about 4 percent and with yields slightly above average, total production was above average and prices to growers were the lowest on record, and 11 percent below the unusually low price of 1932. Nearly 25,000,000 quarts, or 8 percent of the production, was not harvested. Even so, plantings were again increased slightly, bringing the acreage for picking in 1934 close to the 202,400 acres harvested in the record season of 1928. In 1934 almost 23,000,000 quarts, or 7 percent of the total production of berries, was not harvested. Largely because of the 1934 drought, the acreage for picking in 1935 in Arkansas, Missouri, Oklahoma, and Kansas, taken as a group, is expected to be only 41 percent of the acreage harvested in 1934. This reduction is largely responsible for the expected decrease of 15 percent from the total acreage harvested in 1934. Based on average yield per acre of the last 5 seasons, 1930-34, the indicated acreage for harvest in 1935 would produce a crop of 268,000,000 quarts, or 15 percent below the production of 1934.

In the early shipping States (Florida, Louisiana, Alabama, Mississippi, and Texas) preliminary estimates indicate 40,000 acres for picking in 1935. This is about 15 percent below the peak acreage of 1933, and the lowest acreage since 1928. The condition of the first-year beds, comprising about 95 percent of the acreage, was reported to be 78 percent of normal on October 1, 1934, compared with 79 percent a year earlier. The condition of second-year and older beds (confined to Alabama and Mississippi) was given as 74 and 64 percent, respectively, compared with 77 and 75 percent on October 1, 1933. In these States, expansion was marked from 1919 to 1929, when acreage increased from 7,100 to 41,200 acres. Since 1929, the acreage has varied from 40,500 in 1931 to 46,800 in 1933. Decreases in 1935 compared with 1934 are indicated in Louisiana, Alabama, and Mississippi. Florida, with 9,000 acres indicated for 1935, and Louisiana with 25,700 acres, together contribute about 87 percent of the 1935 early acreage. Prices to growers in these States in 1934 were about 27 percent higher than the low prices of 1933, but nearly 30 percent below the 5-year average, 1928-32. In 1933 nearly 5,000,000 quarts of berries and in 1934 about 4,000,000 quarts were not harvested.

In the second early States (Arkansas, Georgia, North Carolina, South Carolina, Tennessee, and Virginia) the 1935 acreage for picking (40,800 acres) is expected to be about 28 percent less than in 1934, and is the smallest reported since 1931, when acreage was unusually low because of the 1930 drought. The estimated acreage for picking in 1935 is composed of 41 percent first-year beds, 38 percent second-year beds, and 21 percent older beds—approximately the same as in 1934. The condition of beds on October 1, 1934, was 63 percent of normal compared with 71 percent October 1, 1933. Production in these States in 1934 was not harvested, chiefly because of market conditions. Prices as a whole average, 1928-32. In both 1933 and 1934, about 10 percent of the production was not harvested, chiefly because of market conditions. Prices as a whole were about the same in 1934 as in 1933, and were 43 percent below the average of the preceding 5 years.

In the intermediate States (Missouri, Kansas, Illinois, Oklahoma, Kentucky, Delaware, Maryland, and New Jersey) acreage for picking in 1935 is expected to be 25 percent below the 1934 acreage, and 19 percent below the 5-year average (1928-32). Principally because of drought, the acreage for harvest in 1935 was sharply reduced in Missouri, Kansas, and Oklahoma, in which the harvest acreage in 1935 is expected to be 7,900 compared with 18,700 in 1934. A total of 38,400 acres is indicated for picking in these States in 1935 (compared with 51,200 acres in 1934) and it is estimated that 46 percent will be first-year beds, 42 percent second-year beds, and 12 percent older beds, compared with 48, 43, and 9 percent, respectively, of the 1934 harvested acreage. Condition of all beds was reported on October 1, 1934, to be 65 percent of normal compared with 70 percent a year earlier. Condition of beds of each age was below that reported in October 1933. All these States show smaller acreages for 1935, except Delaware and Maryland, which show no change. Production in 1934 was 17 percent above the 5-year average. Average prices to growers in 1934 were about 28 percent above the 1933 average, but were 34 percent below the 5-year average, 1928-32.

In the eastern lake States (Indiana, Iowa, Michigan, New York, Ohio, Pennsylvania, and Wisconsin) the estimated acreage for picking in 1935 is about 4 percent smaller than the large acreage of 1934. It is estimated that 49 percent will be first-year beds, 41 percent second-year beds, and 10 percent older beds. On October 1, 1933, corresponding percentages were 51, 39, and 10, respectively. The October condition of first-year beds was reported to be 75 percent of normal, of second-year beds 72 percent, of older beds 64 percent, and of all beds 73 percent of normal. Condition of all beds in this group in October 1933 was 70 percent of normal. The average price paid to growers in 1934 was approximately 28 percent above the 1933 average but was 32 percent under the 5-year average, 1928-32.

In the Pacific Coast and Mountain States (California, Washington, Oregon, and Utah) 23,900 acres are indicated for picking in 1935—about 10 percent above the 1934 harvested acreage but about the same as the average of 1928-32. Of the 1935 acreage in these States, approximately 44 percent will be first-year beds, 34 percent second-year beds, and 22 percent older beds. The October 1934 condition of first-year beds was reported to be 87 percent, of second-year beds 81 percent, of older beds 66 percent, and of all beds 81 percent of normal. The average price to growers in 1934 was 10 percent less than in 1933 and 38 percent under the 5-year average 1928-32.

DRY BEANS

With a total supply of dry beans in 1934 of about 1,000,000 bags (100 pounds) less than the average annual disappearance, prices of beans have lately shown a pronounced increase. Imports of a few classes of beans to supplement the domestic supply will probably be necessary this year, and prices of these classes will be influenced largely by the cost of imported beans. Prices of beans generally will doubtless be much higher than during recent years of surplus domestic supply. As a result, excessive plantings of beans are likely to be made in 1935. The price advantage resulting from a supply adjusted to domestic requirements is not likely to be retained if plantings in 1935 greatly exceed those of 1934. The present short crop is due to acreage abandonment and small yields resulting from drought conditions.

The indicated production of dry beans in 1934, based on crop conditions October 1, is 9,449,000 bags, which would be the smallest production since 1927. This short-crop production, plus a carry-over on September 1 of about 1,700,000 bags, estimated largely on reports obtained from trade sources, gives a total supply of only 11,150,000 bags available for all uses during the 1934 crop-marketing season. This is about 700,000 bags less than the estimated disappearance during the 1933 season and about 1,000,000 bags below the average of the previous 5 years. If the total disappearance of beans during the current marketing season were to continue on the level of the average of recent years, the present supply, unless supplemented by imports, would be entirely exhausted before the 1935 crop is ready for market.

There is a possibility that the consumption of beans may increase during the next year or two because of being substituted for meat, in view of the prospective decrease in the meat supply. Even without this stimulus to consumption it is probable that the relatively low supply will necessitate importing beans

this season. The quantity imported will depend upon the price of domestic beans for which available foreign types can be substituted. Ordinarily the price of domestic beans must exceed a minimum of \$4.50 per 100 pounds before imports are possible with the present duty of 3 cents per pound. Reports from the Danube Basin and Japan indicate that there is an exportable surplus of beans this season slightly above the average exports of the last 5 years. These countries are the principal sources of imports of white beans.

Because of the comparatively small supply of beans and the increase in prices this season, growers will be inclined to plant an excessive acreage in 1935. Some increase in acreage may be warranted but an acreage equal to that planted in 1934, assuming average abandonment and average yields, would produce about 12,000,000 bags of beans. This quantity would be close to the average annual disappearance for all purposes and if proportionately distributed among the different classes or varieties of beans would about equal the average domestic requirements during recent years. Any considerable increase over this quantity probably would go into competition with the 1936 crop. By holding next year's acreage down close to that of 1934 there would be little danger of a reappearance of burdensome carry-overs such as existed in the case of some of the major classes of beans during the period 1929-33.

The average monthly farm price of beans in the United States has advanced sharply since May 1934, when the average was \$2.61. The October 15, 1934, price was \$3.83 per 100 pounds. This compares with \$2.64 for October 1933, \$1.90 for October 1932, and an average of \$5.33 for October of the previous 5 years. However, the index of bean prices has not kept pace with the upward movement of the general index for all farm groups during the last 2 years.

Imports and exports continued to be relatively unimportant factors in the domestic bean situation during the year ended September 1934, when imports exceeded exports by only 46,000 bags.

It is too early to estimate closely the production of beans by classes for 1934. It appears from crop conditions in Michigan and New York on October 1, that the total United States production of Pea beans may be roughly about 2,850,000 bags, compared with 3,818,000 bags in 1933, 4,827,000 bags in 1932, and 3,000,000 bags as an average for the preceding 5 years. According to trade estimates, the carry-over of Pea beans in elevators and warehouses in producing States on September 1 of this year is 500,000 bags, or possibly 10 percent greater than that of a year ago. This makes a total available supply of about 3,350,000 bags.

The indicated production of Great Northern beans based on crop conditions on October 1 in the States of Idaho, Montana, and Wyoming is about 1,250,000 bags, which is about 400,000 bags less than was produced in 1933, 175,000 bags more than in 1932, and 400,000 less than the average of the previous 5 years. The estimated carry-over of Great Northern beans on September 1 is about 410,000 bags, bringing the total indicated supply available for distribution this season up to about 1,660,000 bags, which is slightly above the total disappearance for all purposes during the 1933 crop-marketing season.

The production of Pinto beans is not expected to exceed 650,000 bags, which is the lowest production since this class of beans attained commercial importance. The carry-over of Pinto beans in warehouses in producing States on September 1 is variously estimated at from 100,000 to 250,000 bags. The total supply is probably about one-third the total disappearance during the 1933 season or the average of the years 1927-32.

The production of standard lima beans in 1934 is estimated to be 971,000 bags compared with 943,000 bags in 1933, 872,000 bags in 1932, and 1,011,000 bags average for the 5 years 1927-31. The carry-over of 125,000 bags on September 1, 1934, plus the new crop production gives a total available supply of 1,090,000 bags. This is about 225,000 bags more than the total disappearance during the 1933 crop-marketing season, 172,000 bags more than during 1932, and 65,000 bags more than the 5-year average 1927-31. The total supply of baby lima beans available for all uses during the 1934 crop-marketing season is 810,000 bags. This total supply compares with 698,000 bags in 1933, 470,000 bags in 1932, and 547,000 bags average for the 5 years 1927-31.

PEANUTS

October estimates indicate a 1934 crop of about 1,050,000,000 pounds of peanuts to be harvested for nuts. The estimated production is 14 percent larger than the 1933 crop, about 16 percent above the average production of the 5 years ended with 1931, and only about 4 percent smaller than the large produc-

tion of 1931. Stocks of old-crop peanuts at the beginning of the 1934 marketing season were, however, the lowest in many years. Plans of the Agricultural Adjustment Administration provide means for diverting a very much larger-than-usual proportion of the crop to crushers or to be used as feed. Should these plans be followed the quantity of peanuts going to cleaners and shellers during the 1934-35 season will probably be below the average of recent years.

Prices in early October were higher for comparable grades of peanuts than in any early October since 1929. In addition, growers who contract to limit their 1935 peanut acreage will receive benefit payments amounting to \$8 per ton on the 1934 harvested production. In view of the improved prices it is to be expected that the acreage of peanuts planted to be harvested for nuts in 1935 will be larger than the 1934 acreage. Contracting growers in 1935 will be allowed to plant an acreage equal to the average of the 2 previous years and it seems probable that growers not under contract will increase plantings. There is a possibility that plantings by new growers next year may result in a materially increased acreage and a crop larger than can be marketed at profitable prices.

Owing to the small 1934 production of cottonseed, to reduced hog marketings and resulting higher lard prices, and to increased duties on imported oils, peanut-oil prices have increased sharply since last season along with prices for other vegetable oils. Prices for peanut meal have also increased in common with advances in other feed prices. These increased prices have made it possible for crushers to pay more for peanuts and the Agricultural Adjustment Administration has provided means for remunerating growers for diverting a larger-than-usual proportion of the 1934 peanut crop to crushers or for use as feed. Under these conditions crushings of peanuts in the 1934-35 season will doubtless increase sharply over the level of recent years, when they have averaged about 30,000 tons. Peanuts have already begun to move to southeastern crushing plants in considerable volume. The prices paid in the Southeast, including the Government allowance for diversion to oil, were between \$50 and \$60 per ton during the first 2 weeks in October and many farmers seem inclined to market at prevailing prices.

About one-third of the total planted acreage of peanuts is normally hogged off. The quantity of peanuts harvested and subsequently fed to livestock has been of comparatively small proportions in past years. In view of the present high feed prices and because of the additional payments made for the diversion of harvested peanuts to feed purposes, it is expected that the proportion of the crop thus disposed of will be increased.

ACREAGES

The September estimate of 1,535,000 acres of peanuts to be harvested for nuts in 1934 is the second largest acreage on record, being exceeded only in 1932. This estimated acreage was based on the assumption that the acreage of peanuts harvested for nuts would be about the same proportion of the total peanut acreage as has been the case in past years. However, it appears that the proportion of the total plantings harvested for nuts may be increased this year because of prospects of improved returns for peanuts harvested and because of a reduction in number of hogs. The October estimated yield per acre in 1934 of about 684 pounds slightly exceeds the 1932 and 1933 yields, but is somewhat below the average for the 5 years ended with 1931. The acreage in 1934 was increased over the 1933 level in each State except Texas, but the large increase in acreage was chiefly confined to the Southeastern States and to the Virginia-North Carolina section. The preliminary estimate of about 1,050,000,000 pounds for 1934 is about 145,000,000 pounds above the average production for the 5 years 1927-31. It is about 45,000,000 pounds lower than the large 1931 production and about 130,000,000 pounds above the 1933 production. Stocks of old-crop peanuts at the beginning of the present marketing season were the lowest in years. With present plans for diverting the surplus 1934 production to oil mills and for use as feed, supplies of peanuts going to cleaners and shellers during the current marketing season are expected to be somewhat lower than the average of recent years.

Virginia, North Carolina, and Tennessee, which produce principally large-podded peanuts or Virginia-type nuts, according to preliminary estimates have an acreage about 20 percent above that of 1933, but this forecast acreage is smaller than the large acreages of 1931 and 1932. The prospective yield per acre in 1934 is improved over the rather low 1933 yield, and the indicated

production of 421,730,000 pounds is about 33 percent above the 1933 production. The carry-over of old-crop Virginia peanuts in all hands at the beginning of the 1934-35 marketing season was negligible. With practically no carry-over, and with a probable increase in the quantities of peanuts in these States that will be diverted to crushers or used for feed, supplies of Virginia peanuts for cleaners and shellers during the coming season are not expected to be in excess of requirements, notwithstanding the rather large 1934 crop.

In the Southeastern States of Georgia, Alabama, Florida, South Carolina, and Mississippi, where both Spanish and Runner types are grown, the indicated 1934 acreage has been exceeded only in 1932. The estimated 1934 production of 533,840,000 pounds for these States exceeds the previous large 1931 crop by about 9 percent and is about 17 percent larger than either the 1932 or 1933 crop. Supplies of old-crop peanuts at the beginning of the current marketing season were negligible, as was the case a year earlier. It is expected that a considerable proportion of peanuts from these Southeastern States will be diverted to crushers or used for feed. Early reports indicate that the 1934 crop, particularly of Spanish-type nuts, will be above average quality.

In the Southwestern States of Texas, Oklahoma, Arkansas, and Louisiana, where the Spanish-type peanuts are grown, the 1934 acreage is only slightly increased over the 1933 acreage. The indicated yield per acre, however, is exceptionally low because of the drought, and the estimated production in 1934 of 94,175,000 pounds is the smallest since 1930 and 36 percent below the 1933 crop. Supplies of peanuts in these Southwestern States were exhausted before the beginning of the current marketing season, and present supplies are certain to be inadequate for normal needs. Early reports indicate that the quality of peanuts in the Southwest is below average, being affected by unfavorable weather. Harvestings have been delayed in the hope that the yields might be improved by late rains.

TOBACCO

The outlook for most types of tobacco is for reduced stocks a year hence and for further improvement in the supply situation, provided production in 1935 is held in line with requirements. Domestic consumption of several tobacco products has shown improvement during the past year and exchange rates are favorable to the exportation of American tobacco. Exports to October 1934 continued to be small, though exceeding the exports for the same months in 1933. In spite of the improvement that has occurred, supplies of several types of tobacco continue to be large when compared to the present rate of consumption. This is especially true for burley, the production of which has not been reduced enough to result in a materially reduced carry-over by October 1935.

The total tobacco acreage grown in the United States in 1934 was estimated at 1,364,500 acres, a very large percentage of which was under contract with the Agricultural Adjustment Administration. The contracts provided for different rates of reduction for the several kinds of tobacco, averaging around 30 percent. The 1934 acreage was the smallest total acreage in the United States since 1921 and the second smallest since 1914. Preliminary estimates in 1934 indicate yields above average for most types of tobacco, as a result of favorable weather conditions. The average yield for all types combined was estimated at 800 pounds per acre, which is higher than any yield for the last 11 years. For some types, notably burley and fire-cured, the 1934 production of contracting growers is reported to be materially in excess of the quantity allotted to be sold under the contracts. The extent to which this excess production is marketed will influence the size of the carry-over of these types into the next marketing season.

Consumption of tobacco products was reduced during the depression: cigarette and cigar consumption decreased materially, pipe smoking and the use of hand-rolled cigarettes increased, snuff consumption decreased, and chewing tobacco continued to decline as it has done for many years. During the last year, there was an increase in the consumption of all classes of tobacco products, the principal increase being in cigarettes and cigars.

On the other hand, American tobaccos are continuing to meet with increased competition in foreign markets. A large quantity of tobacco formerly purchased from the United States has been replaced by competing foreign types. The production of tobacco in seven countries, which before the World War

took approximately 45 percent of the leaf tobacco exported from the United States, increased from an average of 250,000,000 pounds for the 3 years 1918-20 to 451,000,000 pounds for the 3 years 1930-32. This expansion resulted largely from high foreign tariffs, policies of government tobacco monopolies in foreign countries, and unfavorable exchange rates.

From 1919 to 1929 nearly 45 percent of the production of tobacco in the United States was exported. During the 12 months ended September 30, 1930, exports totaled 688,000,000 pounds (farm sales weight), from which level exports dropped successively to 640,000,000 pounds for the crop year 1930-31, 480,000,000 pounds for 1931-32, and 437,000,000 pounds for the 12 months ended September 30, 1933. Exports in the latter years, however, were materially affected by the unusually short crop of 1932. During the 12 months to September 1934, following the large crop of 1933, exports amounted to only 500,000,000 pounds, equivalent to 30 percent of the total 1933 production.

The tendency toward self-sufficiency on the part of many countries and the high prices now prevailing in the United States for some types of tobacco may further encourage the production and consumption of competing foreign types. However, if the improvement which took place last year in exchange rates is maintained during 1935 it may partially offset some of these influences.

With a very large percentage of the tobacco acreage of the United States under contract with the Agricultural Adjustment Administration for 1934 and 1935, it is evident that the policy of the Administration, together with any extension or modification of the Tobacco Control Act, must be considered as a principal factor in determining acreage and production in 1935. In the past, substantially improved prices for tobacco have usually caused large increases in production and lower prices the following year. Except for the control measures to be applied to tobacco in 1935, plantings of most types would probably be greatly increased. Notwithstanding the progress made in the liquidation of surplus tobacco stocks in 1934, a general expansion of production does not appear justified in 1935.

FLUE-CURED TOBACCO, TYPES 11, 12, 13, AND 14

The flue-cured tobacco situation shows considerable improvement compared with a year ago. A moderate increase in acreage seems justified in 1935 in order to obtain a production equal to consumption, thus maintaining a total supply for the 1935-36 marketing year similar to that available for this season.

With July 1 stocks in the United States estimated at 770,000,000 pounds (farm sales weight) and foreign stocks of United States flue-cured tobacco estimated at 580,000,000 pounds, the total carry-over into the present marketing season amounted to about 1,350,000,000 pounds. Carry-over, combined with the October 1 estimates of the 1934 production of 545,000,000 pounds, makes the total supply of United States flue-cured tobacco for the current season 1,895,000,000 pounds, which is 4.5 percent below the supply a year earlier and 10 percent below the average of the last 5 years. World carry-over July 1, 1934, was approximately 105,000,000 pounds larger than a year earlier as a result of the large crop of 1933. This increase of carry-over was more than offset, however, by the reduction in the 1934 crop.

World consumption of United States flue-cured tobacco during the year ended June 30, 1934, showed little change from that of the preceding year, being estimated at 633,000,000 pounds, which was about 8 percent below the average for the last 5 years. Domestic consumption, which consists of about two-fifths of this total, increased nearly 5 percent during the year because of the increase in the use of cigarettes, but foreign consumption declined slightly. About 30 percent of the total world consumption of flue-cured tobacco is used in cigarettes in the United States. Cigarette consumption during 1934-35 is expected to show some further increase, but the consumption of other manufactured tobacco products is not likely to show much change, leaving the net increase for flue-cured products in the United States about the same as that which occurred last year.

Exports during 1933-34 totaled 380,000,000 pounds (farm-sales weight), which represents an increase of 22 percent over the exports a year earlier and 14 percent over 2 years earlier. This is about 10 percent below the 5-year average. The quantity exported last year exceeded foreign consumption for the first time since 1930-31. It is probable that, in view of the reduced production in 1934, exports during 1934-35 will be below foreign consumption. Foreign consumption showed a small reduction last year, and it appears probable that

some further decline may take place during 1934-35. Although the consumption of United States flue-cured tobacco in the United Kingdom appears to have shown some increase during the last few months, this gain has been more than offset by declines in other important countries, particularly in China. The production of flue-cured tobacco in foreign countries in 1934 appears to have been larger than in 1933, notwithstanding the smaller crop in Canada, and it is expected that further increases may take place in 1935, bringing the total foreign production for reporting countries (China, Japan, South Africa, Canada, and Australia) well above 200,000,000 pounds.

It is estimated that the total world consumption of flue-cured tobacco during 1934-35 will be around 630,000,000 pounds. This suggests that world stocks on July 1, 1935, will be about 1,265,000 pounds, or 6.4 percent below those of July 1, 1934. Therefore a crop of flue-cured tobacco in 1935 equal to that of 1934 would make a total world's supply for the succeeding year of about 1,800,000,000 pounds, or about 5 percent below that of July 1, 1934. On the other hand, a 1935 crop as large as that of 1933 would give a world's supply approximately 105,000,000 pounds larger than that of 1934-35.

Sales to October 1 from the 1934 crop of flue-cured tobacco were at the most favorable prices in more than a decade. Judging from the effects of high prices in previous years, it appears that if no control measures were to be applied in 1935 the acreage planted to flue-cured tobacco would be so increased as to result in a crop far in excess of world consumption. The present economic situation in the flue-cured tobacco industry indicates that the total supply for the 1935-36 season should not greatly exceed that available for the present season.

FIRE-CURED TOBACCO, TYPES 21, 22, 23, AND 24

The outlook for fire-cured tobacco shows only moderate improvement. World supplies, though materially reduced, are still large, and the export situation shows no material improvement. Foreign consumption of these types, which has been on a downward trend for the last decade or more, decreased further during the last year, but a moderate increase is shown in domestic consumption.

Production of fire-cured tobacco in the United States in 1934 is currently estimated at 121,628,000 pounds. Except for 1927, this is the smallest crop on record and is materially less than world consumption for the 1933-34 season. As this crop is below world consumption, stocks of these types a year hence will show a sizeable reduction from present levels.

Domestic stocks of fire-cured tobacco on October 1 are estimated at about 207,000,000 pounds (farm sales weight). Foreign stocks of United States fire-cured types have been estimated at 133,000,000 pounds. World stocks, together with the estimated domestic production of nearly 122,000,000 pounds, make a total world supply of 462,000,000 pounds for the 1934-35 season. This is about 4 percent less than the world supply the previous year and around 35 percent below the level of world supplies 10 years earlier. But present supplies are large in view of the reduced rate of consumption.

World consumption of United States fire-cured tobacco, for the 12 months ended September 30, 1934, is estimated at 134,000,000 pounds. This is about 2 percent below world consumption for the preceding 12-month period and 37 percent smaller than world consumption in 1925. Foreign consumption decreased during the last season, but was offset to some extent by increases in domestic use. About 70 percent of the fire-cured tobacco produced in the United States is exported and about 30 percent of it is used in domestic products, principally snuff. Tax-paid withdrawals of snuff for the 12 months ended with September 1934 were approximately 5 percent larger than for the previous 12 months.

The foreign trade in United States fire-cured tobacco has declined rapidly since 1923, owing to the increasing competition of foreign tobacco and to changes in consumer preferences. Exports for all fire-cured types for the 12 months to September 30, 1934, totaled only 83,000,000 pounds (farm sales weight). This is 9 percent below exports for the previous year and more than 50 percent below the exports of 10 years ago.

The outlook for fire-cured tobacco in 1935 depends to some extent on the disposition made of the excess production of some producers of the quantity allotted under contract. If this excess is destroyed, the supply situation will have been so improved by 1935 that a reduction in the crop somewhat less than that of 1934 will restore supplies to their normal relationship with consumption.

BURLEY TOBACCO, TYPE 31

The dominating factor in the burley situation is the huge carry-over from the 1933 and previous crops. In 1933 the October carry-over was about 736,000,000 pounds, farm weight. Added to the 1933 production of 382,000,000 pounds this made a total supply of 1,118,000,000 pounds, the equivalent of about 4 years' consumption requirements compared with an average of 2.8 years' supply during the 10-year period 1920-29. This year it is believed that October stocks (not yet tabulated) will amount to about 837,000,000 pounds, farm weight. This, added to the estimated 1934 production of 298,000,000 pounds, makes a total supply of 1,135,000,000 pounds, or again, about 4 years' consumption requirements. Should the full quantity be sold or held available for sale, the total supply for the ensuing year would be 1,135,000,000 pounds, or about 1½ percent greater than that of a year ago. This suggests that the planting of an acreage next year equal to that of 1934 would be unwise.

It has been reported that owing to favorable yields, a larger percentage of the burley growers who signed contracts with the Agricultural Adjustment Administration this year have produced in excess of their quota. The method of disposing of this excess tobacco will have an important bearing on the present and future outlook. If, as has been estimated, the excess production by signers amounts to 25,000,000 pounds, and this quantity is destroyed or rendered unfit for the ordinary uses, the present potential supply and next October's carry-over will be diminished accordingly.

The demand situation in burley has improved somewhat. Cigarette consumption has shown an upward trend since April 1932. Withdrawals during the 12 months ended September 1 were about 9 percent higher this year than last. Consumption of other products for which burley is used has shown but little change, however, and the total disappearance of burley in the 1933-34 season will probably be about 4 percent over that of the previous season.

MARYLAND TOBACCO, TYPE 32

The outlook for good Maryland tobacco appears to be favorable. But it is to be noted that the total supply as of October 1 was the highest on record, largely because of the accumulation of low-grade tobacco. Production in 1934 is estimated at 24,480,000 pounds, compared with 20,400,000 pounds in 1933; whereas it is estimated that stocks on October 1 were 38,000,000 pounds, compared with 40,488,000 pounds a year ago. The net effect of these changes in production and stocks is to increase the total supply from 60,888,000 pounds on October 1, 1933, to about 62,500,000 pounds on the same date in 1934. A considerable portion of the existing stocks and total supply represents an accumulation of low-grade tobacco. Offsetting this increase in total supply is the fact that exports have improved somewhat during the last 9 months and there are indications that domestic consumption also is increasing. Total disappearance is estimated at 23,000,000 pounds during the last 12 months, which is substantially larger than disappearance during any of the preceding 3 years. Prices paid on the Baltimore market for the 1933 crop averaged slightly higher than those paid for the 1932 crop, notwithstanding the fact that the only sales of low-grade tobacco have been at extremely low prices.

DARK AIR-CURED TOBACCO, TYPES 35, 36, AND 37

The supply situation of the dark air-cured class of tobacco improved during last year. Production during the last 2 years has been on a lower scale than in previous years, and there has also been a reduction in stocks. The October forecast of production of dark air-cured types is about 10,000,000 pounds less than the total disappearance during the year ended October 1, so that it is probable that stocks will be further reduced by October 1, 1935.

Disappearance of dark air-cured tobacco declined more than 50 percent during the last decade but has remained at about the same level during the last 2 years. Most of the earlier decline was due to the decreasing consumption of chewing tobacco here, and to foreign substitutions. This decline has proceeded without interruption for many years, but there are indications now that, temporarily at least, the decline has been checked. Considerable quantities of dark air-cured tobacco are exported in the form of black-fat, and these exports are being fairly well maintained. Altogether, no material change in the world consumption of these types is likely to occur during the ensuing year. With this factor remaining about the same, and with a reduction in stocks by next October, the outlook for 1935 shows improvement.

CIGAR-LEAF TOBACCO

The outlook for cigar tobacco has improved, but burdensome supplies and restricted outlets, especially for the stemming grades, continue to face the growers. The decline in cigar consumption has been checked, but the consumption of scrap chewing tobacco continues to decline. Even after the serious oversupply situation of recent years has been corrected, farmers will be obliged to continue production at a level much below that of 1931 and previous years if improved prices are to be maintained.

Tax-paid withdrawals of cigars for the 9 months ended with September 1934 were about 2 percent larger than for the same period in 1933, but about 30 percent below the average for the 5-year period, 1926-30. Available information indicates that the consumption of scrap chewing tobacco has declined around one-third during the last 3 years. During the last year the decreased use of cigar tobacco in production of scrap chewing more than offset its increased use in cigars.

Estimated production of domestic cigar tobacco in 1933 was approximately 35,000,000 pounds less than consumption, thus resulting in a reduction by that quantity in stocks (including farm stocks) held on October 1, 1934, from those of a year earlier. Early estimates of production and consumption for 1934 indicate that stocks will further decrease by approximately the same quantity by next October 1.

As compared with the normal relation of stocks to consumption, present stocks are still excessive. Those of October 1, 1934, were equivalent to approximately 4.4 years' consumption, whereas from 1923 to 1929 stocks averaged 2.4 times the annual consumption. The reduction in stocks during last year was equivalent to approximately one-third of a year's consumption.

October 1 estimates indicate a 1934 crop of cigar tobacco of 70,569,000 pounds. This is the smallest crop reported for cigar-tobacco districts since 1869. Production of filler types for 1934 is estimated at 36,155,000 pounds; binder types, 27,431,000 pounds; and wrapper types, 6,983,000 pounds. Approximately 92 percent of the growers operated in 1934 under adjustment contracts with the Agricultural Adjustment Administration. Under the terms of these contracts, the reductions made in acreage in 1934 may be continued in 1935.

Tobacco plantings in Puerto Rico for the 1934-35 crop are expected to be about 33 percent smaller than those of 1933-34. The import duty on tobacco and tobacco products from Cuba was reduced under the reciprocal trade agreement between Cuba and the United States, effective September 3, 1934, but the quantity of such tobacco and tobacco products (unstemmed equivalent) which may be imported during any year is limited to 18 percent of the quantity of tobacco used in cigar factories in the United States during the preceding year. The percentage relationship is approximately the average of the last 10 years.

BROOMCORN

A moderate expansion of broomcorn acreage in 1935 in established producing districts appears justified, in view of prospective commercial requirements. Expansion could easily be overdone, however. The short 1934 crop and present high prices, together with a small carry-over into 1935, may result in a larger broomcorn acreage in 1935 than is warranted, especially in view of the expansion occurring outside of established areas.

The crop of 31,800 tons in 1933 was smaller than the crop of any of the preceding 7 years and exceeded the very small 1925 crop by only 600 tons. The present outlook is for a production in 1934 of approximately 28,600 tons, which is about 10 percent under that of 1933 and materially below the requirements of domestic use and usual exports.

The annual disappearance in recent years has averaged about 45,000 tons. A crop of 50,000 tons in 1935 would probably be sufficient for next season's domestic use and exports, and in addition would provide for a moderate carry-over. Such a crop, with the 1924-33 average yield of 300 pounds per acre, would be produced on 333,000 acres—an acreage 14 percent greater than the 291,000 acres harvested in 1934 but only 4 percent above the 5-year (1929-33) average of 320,000 acres.

As the uses of broomcorn are practically limited to the making of brooms, any crop much greater or much less than the requirements for domestic use and exports has usually resulted in a decided change in the farm price. In past years, after high prices, broomcorn production has usually been mate-

rially increased. Should plantings in 1935 be excessive, the resultant crop, with average yields, would probably be larger than could be marketed at profitable prices.

In view of the high prices such as those of 1933 and 1934, it is probable that growers in established districts will expand their acreage sufficiently to provide an adequate supply. Since buyers usually visit only established districts, producers of broomcorn outside of these districts, unless they have a local market, are at a material disadvantage in marketing their crop. In addition, broomcorn production requires special equipment. Unless a grower has had experience in growing and handling the crop, he is likely to produce broomcorn brush of low quality, which will not command a good price.

RICE

Supplies of rice in the United States for the 1934-35 season are about 6 percent larger than they were in 1933-34. Even should the 1934-35 domestic utilization, exports, and shipments to insular possessions be slightly larger than in 1933-34, the carry-over on August 1, 1935, will not be greatly different from the carry-over on August 1, 1934, which was the second largest on record. The probabilities, however, indicate a larger carry-over at the close of the 1934-35 season than on August 1, 1934. Domestic utilization may be increased slightly from the prevailing low level, under the stimulus of marketing agreements, but the net effect will hardly be sufficient to reduce the prospective large carry-over. Minimum rice prices were established near the pre-war level by marketing agreements and by a license. By establishing minimum prices, the marketing agreements have minimized speculative interest in the accumulation of stocks of rice. If United States rice acreage and production are not successfully controlled in 1935 at around the 1934 level, present prices cannot be maintained.

SOUTHERN BELT

Supplies of southern rice for the 1934-35 season are 4 percent larger than those of 1933-34 but 6 percent under the average of the years 1929-33. The carry-over from the previous year was larger, and the 1934 crop was about as large as that of 1933. The southern rough-rice carry-over of 469,000 barrels was only slightly larger than the 448,000 barrels of the previous season. The concentration of milled rice at southern mills, however, which on August 1, 1934, totaled the record quantity for that date of 999,000 pockets, made the total carry-over 1,468,000 pockets. The total 1933 carry-over was 1,093,000 pockets, while the total 1932 carry-over was 1,613,000 pockets—a post-war record. (Rough rice was converted to milled rice on the basis that 1 barrel or 162 pounds of rough rice equals 1 pocket of 100 pounds of milled rice.)

The 1934 southern rice crop was estimated, October 1, at 8,174,000 barrels (29,426,000 bushels) compared with 8,216,000 barrels (29,577,000 bushels) produced in 1933 and 9,520,000 barrels (34,272,000 bushels) in the 5 years 1929-33, used as the base period in the crop-control program. Neither the 1934 acreage nor yield per acre was greatly different from those of 1933.

The total 1934-35 rough-rice supply (carry-over plus the 1934 crop) minus a nominal allowance for farm use including seed and feed, indicates a 1934-35 commercial mill supply of 7,926,000 barrels compared with the 1933-34 mill receipts of 7,628,000 barrels. Commercial mill receipts during August and September 1934 totaled 1,079,000 barrels as against 1,237,000 barrels in the same period last year. Movement of the milled-rice products from southern mills, however, was 24 percent greater than in August-September 1933, and totaled 1,302,000 pockets, causing a reduction of southern mill stocks of milled rice to 790,000 pockets on October 1, 1934. Mill stocks of rough rice October 1, 1934, totaled 294,000 barrels, compared with 529,000 barrels a year earlier. A comparison of these periods indicates a slower movement of new-crop rough-rice to mills in 1934 and the tendency to reduce previously accumulated mill stocks. The larger market takings of milled rice in August and September suggest a replenishment of the stocks, in wholesale centers and in Puerto Rico, which were permitted to dwindle in the spring of 1934, rather than a material improvement in consumer demand.

Exports of southern rice during 1934-35 will be small because of the high-price level of domestic rice compared with foreign rice, the comparatively liberal supplies in foreign countries, and the various import regulations of foreign governments. Movement of southern rice to Puerto Rico during the season may be even lower than the small shipments during 1933-34 because of a decrease in

purchasing power. Demand in continental United States may possibly be increased. A Nation-wide advertising campaign has been initiated by the southern rice industry to increase domestic rice consumption. The Federal Relief Corporation has accepted bids on 50,370,000 pounds, clean (40,370,000 pounds of southern rice and 10,000,000 pounds California rice) of the carry-over to distribute to the needy unemployed, thus removing from commercial channels some of the surplus of old rice.

Minimum prices for 13 varieties of southern rice were established October 15, 1934. Under provisions of the southern rice-marketing agreement and license the minimum price of No. 1 prime A milling quality Early Prolific was placed October 15 at \$2.90; Blue Rose type Prolific, \$3.10; Blue Rose, \$3.30; Louisiana Pearl, \$3.15; Lady and Early Wright, \$3.30; Edith, \$3.60; Fortuna, \$3.65; and Rexoro, \$3.70 per barrel. These prices are slightly higher than the 1933-34 minimum prices or those generally prevailing in the markets during or at the close of the 1933-34 season. The seasonal average price of southern rough rice from the 1933 crop was 76 cents per bushel (\$2.74 per barrel) compared with 42 cents per bushel (\$1.51 per barrel) for the 1932 crop. Southern milled-rice prices may be slightly lower because of the amendment to the license which reduced the conversion charge on rough rice from 70 cents to 50 cents per barrel.

CALIFORNIA

The 1934 rice crop in California was placed by the October 1 estimate at 3,165,750 bags of 100 pounds each (7,035,000 bushels) compared with 2,718,900 bags (6,042,000 bushels) last year and an average of 3,156,000 bags (7,013,000 bushels) during the base period 1929-33. The 1934 carry-over was large considering the 1933 crop. It totaled about 325,000 bags. Mill stocks of rough rice at the beginning of the 1934-35 season (Oct. 1) aggregated 30,000 bags compared with 37,000 bags a year ago; of milled rice 228,000 bags and 73,000 bags at the same dates, respectively.

During the California 1933-34 rice season, total shipments to Hawaii and Puerto Rico, and exports, were reduced compared with a year ago. Southern Blue Rose and Japan rice were relatively cheaper than California-Japan in Puerto Rico. During the 1934-35 season California probably will not ship more rice to Puerto Rico than in 1933-34, when it shipped 387,000 bags. The average shipments of California rice to Puerto Rico, 1928-29 to 1932-33, was 420,000 bags, clean basis. Hawaii and Pacific coast markets will remain the principal outlets. Competition from oriental rice in Hawaii will probably be less in 1934-35 than last season, owing to the small Chinese and Japanese crops. The 1934-35 export market for California-Japan will be unusually small and will remain as restricted as in 1933-34, when less than 10,000 bags were exported. By order of the Secretary of Agriculture, October 15, 1934, extra fancy California-Japan was priced at \$3.95 per 100 pounds f. o. b. San Francisco. The earlier minimum was \$3.60, but market prices in 1933-34 averaged slightly above this base.

FOREIGN SITUATION

United States rice prices are sufficiently above the world level to permit imports of rice and rice products. Imports of rough rice (in terms of clean), cleaned rice, including Patna, and flour, meal, and broken rice during the year ended with July 1934 totaled 42,000,000 pounds, compared with 22,000,000 pounds in the preceding season of 1932-33. The increase was principally in broken rice for brewing purposes, which increased from 2,846,000 pounds in 1932-33 to 26,186,000 pounds in 1933-34. Some foreign head rices compete in American markets with domestic rice. Imports from the Philippine Islands have increased rapidly; they are principally in competition with southern rices. During 1933 imports into the United States from the Philippines totaled only 221,000 pounds, whereas for the period January to August 1934 imports from those islands totaled 3,672,000 pounds. Market quotations on Philippine rices were generally under domestic prices.

The 1934 rice crop of Japan is estimated at only approximately 16,600,000,000 pounds, as compared with the final estimate of the 1933 production of 22,254,000,000 pounds. The October 1, 1934 carry-over, however, is placed at the record level of 5,000,000,000 pounds. The total supply, including imports from possessions, indicates relatively low prices during 1934-35 compared with No. 1 brown at San Francisco. Thus, an increase in exports of brown head rice from San Francisco is not probable. The Chinese crop is also reported to be much below the production of 1933. The 1934 production in three leading European countries (Bulgaria, Italy, and Spain) is estimated at 1,268,000,000 pounds, as compared with 1,248,000,000 pounds in 1933.

Exports from the United States to Cuba may be increased slightly during 1934-35 as a result of the new trade agreement with Cuba, which makes it less difficult for Cubans to purchase United States rice. The trade agreement with Cuba permits imports of hulled or semihulled rice from the United States at a tariff rate 50 percent below the rate applied to rice from other countries. The duty plus the consumption tax on United States hulled and semihulled rice was reduced from \$1.01 to 84 cents per 100 pounds. The duty, including the tax on rice from countries other than the United States, remains at \$1.68 per 100 pounds.

